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LICENSE RENEWAL

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## UNITED STATES NUCLEAR REGULATORY COMMISSION

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PUBLIC MEETING ON

SUBSEQUENT LICENSE RENEWAL

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WEDNESDAY

MAY 9, 2012

+ + + + +

The Public Meeting was held in Plaza I in the Rockville Hilton, 1750 Rockville Pike, Rockville, Maryland, at 8:00 a.m., Lance Rakovan, Moderator, presiding.

NRC STAFF PRESENT:

LANCE RAKOVAN, Moderator

BENNETT BRADY, NRR/DLR

MELANIE GALLOWAY, NRR/DLR

ALLEN HISER, NRR/DLR

BRIAN HOLIAN, NRR/DLR

JIM MEDOFF, NRR/DLR

STACIE SAKAI, NRR/DLR

MARY SPENCER, OGC

JEREMY SUSCO, NRR/DLR

MIKE WENTZEL, NRR/DLR

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PANELISTS ON PROCESS ISSUES:

MARY LAMPERT, Pilgrim Watch\*

DAVID LOCHBAUM, Union of Concerned Scientists

RICHARD WEBSTER, Public Justice

GARRY YOUNG, Entergy Nuclear

PANELISTS ON SAFETY ISSUES:

SHERRY BERNHOFT, EPRI Program Manager, Long Term  
Operations

MICHAEL FALLIN, Constellation Energy Nuclear Group

MARY LAMPERT, Pilgrim Watch\*

DAVID LOCHBAUM, Union of Concerned Scientists

RICHARD REISTER, Light Water Reactor Sustainability  
Program, Office of Nuclear Energy, U.S. DOE

RICHARD WEBSTER, Public Justice

PANELISTS ON ENVIRONMENTAL ISSUES:

RICK BUCKLEY, Entergy Nuclear

MARY LAMPERT, Pilgrim Watch\*

RICHARD WEBSTER, Public Justice

SCOTT WILSON, U.S. EPA

ALSO PRESENT:

JIM RICCIO, Greenpeace

MAKUTESWARA SRINIVASAN

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\*Participating via teleconference

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

2 (8:03:23 a.m.)

3 MR. RAKOVAN: Okay, good morning,  
4 everyone. Thanks for coming out this morning. My name  
5 is Lance Rakovan, and I'm going to be facilitating  
6 today's meeting.

7 Stacie, did you have a few words that you  
8 wanted to say before I went ahead and went into the  
9 ground rules?

10 MS. SAKAI: Okay, sure. Hi, my name is  
11 Stacie Sakai. Thank you all for joining us today.  
12 First of all, Brian Holian, our Division Director is  
13 back from the Office of Research, and he has a few  
14 remarks. Brian, if you'd like.

15 MR. HOLIAN: Lance, are you going to go  
16 over who's on the phone?

17 MR. RAKOVAN: No. Right now everybody on  
18 the phone is muted. I know we have Mary Lampert, which  
19 is one of our panelists.

20 MR. HOLIAN: She's on the phone.

21 MR. RAKOVAN: She is on the phone, yes.

22 MR. HOLIAN: Well, I wanted to welcome  
23 Mary Lampert, and other people on the phone. I'm sure  
24 at some point you can introduce yourself. We won't

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1 go through the unmuting now, but thank you for  
2 joining by phone, and appreciate you doing that.

3 Well, my name is Brian Holian. I'm the  
4 Division Director for the Division of License  
5 Renewal. However, I'm just back after six or seven  
6 months. Melanie Galloway's been running it, and I'm  
7 surprised they got my name on the agenda here since  
8 they weren't sure when I was coming back from  
9 Research. I had a good rotation up there helping  
10 Brian Sheron up in Research, and it's good to touch  
11 on some license renewal work that's up there. That  
12 was one of the tasks I was trying to follow while I  
13 was up at Research, but I appreciate it, and I'm glad  
14 here just to say a couple of things before I turn it  
15 over to Melanie, who's done the bulk of the work on  
16 setting up this conference during my absence.

17 I did just want to mention two quick  
18 things to say, and they'll hit with some of you.  
19 First off, I wanted to say since I was in Research  
20 for six or seven months, I had nothing to do with  
21 scheduling the date of this conference. Okay? That's  
22 an inside joke for some of you. I guess there's been  
23 a few dates picked, and I do apologize, I guess, on  
24 behalf of that, but it's an important thing to go

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1 through. We've been thinking about having a meeting  
2 like this for numerous months, and it's just how to  
3 get the right stakeholders together, and the right  
4 forum. So, I know there's been some past to that, but  
5 it's important to start it. This will be the first  
6 of many discussions, hopefully, on this topic, so  
7 we're glad to kick it off today.

8           The second item I wanted to say just  
9 touches on my time up in Research. It was my first  
10 week there, I'm walking the halls a little bit, and  
11 I came upon this Albert Einstein quote. And it was  
12 in a couple of places in Research, and somehow when  
13 I was thinking back on my time I thought this might  
14 apply at least for some of you today.

15           Albert Einstein said at one time, "If we  
16 knew what we were doing, it wouldn't be called  
17 Research." So, some of you may have that view of the  
18 license renewal process, some stakeholders. But,  
19 clearly, I enjoyed that quote that adorned the  
20 Research hallways up there.

21           You know, I'll let Melanie go over the  
22 importance of this topic. She's prepared to do that,  
23 but I did want to just talk in general. I've been back  
24 from a Regional position where I spent nine years out

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1 in Region I. And I came back about four years ago now  
2 into license renewal, and I wanted to talk in general  
3 what I view as the success of license renewal.

4 If you walk the halls in One White Flint  
5 between buildings, sometimes you see pictures of  
6 applicants bringing in applications, or even some of  
7 the signing ceremonies for license renewal. And I  
8 just wanted to reiterate to stakeholders on both  
9 sides that for me success of license renewal is not  
10 the pictures of an application or a signing. And I  
11 didn't have time really for this conference to put  
12 a picture up here, so if you're on the phone I'm going  
13 to pass around a picture that we keep right outside  
14 Melanie and my office on the 11<sup>th</sup> floor of White Flint.  
15 And I'll pass this around. The DLR staff has seen it.  
16 This is one of many pictures, I think this was shown  
17 at a Commission meeting about a year ago. I showed  
18 about 10 to 15 of these pictures. And what we keep  
19 outside our office are pictures of technical issues  
20 that license renewal has either uncovered or has put  
21 to the forefront of Agency reviews.

22 And for those on the phone, I'm holding  
23 up a fire sprinkler header that is separated, and it  
24 was from the Monticello plant. And it's a cross

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1 section of the pipe, and it's almost full of  
2 sediment. And this picture, there's two good things  
3 on it. One, I look at this as success. It's success  
4 because this was identified from a one-time  
5 inspection that was put into a safety evaluation for  
6 Monticello 10 years before. And they found this  
7 issue, and it's an issue that a good reviewer thought  
8 about and said this could be a dead-header section.  
9 And it was that reviewer's initiative that had that  
10 test put in there.

11 Now, it's also a reminder to us that my  
12 view of success would have been if they took a cross  
13 section of this, real success would have been finding  
14 only 10 percent sediment in the line, and not as much  
15 blocking. So, even the -- our staff, I want you to  
16 know, learned some issues like this. I looked at Mr.  
17 Lochbaum's comments. I think they were sent into the  
18 NRC yesterday, and prior to this meeting, and one of  
19 his items talks about one-time inspections, and how  
20 do you make sure one time is enough? And does the  
21 industry move from one time if they find an issue like  
22 this to a regular Aging Management Program? And we  
23 would hope that would be the case, and we'll  
24 follow-up on those things.

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1           So, that was the one technical piece  
2 coming in here. And with that, I'll turn it over to  
3 Melanie Galloway for opening comments for the  
4 conference. Melanie has been a long time SES member.  
5 We were glad to get her in License Renewal from the  
6 Risk Group in NRR just a couple of years ago. I again  
7 congratulate her for setting up this conference.  
8 And, Melanie, please take over.

9           MS. GALLOWAY: Thanks, Brian. As Brian  
10 noted, my name is Melanie Galloway, and I am the  
11 Deputy Director in the Division of License Renewal.

12           First of all, I want to thank all of you  
13 for participating, and I want to give you some broad  
14 insights on what we hope to achieve here today.  
15 Broadly speaking, the purpose of this meeting is to  
16 give an opportunity for stakeholders to share their  
17 insights with us, the Agency, in terms of what might  
18 be issues that need to be considered for second  
19 license renewal.

20           The nuclear industry has indicated that  
21 it plans to pursue subsequent or second license  
22 renewals, that operating period of time for 60 to 80  
23 years. And as a result of that, we in the Agency  
24 believe it's appropriate that we start preparation

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1 and thinking about what is necessary to support our  
2 review associated with second renewals.

3 To date, we've already learned a lot  
4 because we've done 71 renewed licenses. We've  
5 learned a lot from that process. In addition, we  
6 continue to learn because there are 10 plants that  
7 are now in the period of extended operation. They are  
8 implementing their Aging Management Programs. And,  
9 of course, with each passing month there are more  
10 that come closer to going into the PEO, and actually  
11 entering the PEO. So, these sources of information  
12 lead us to realize that it is important that we take  
13 account of these lessons and what we've learned, and  
14 ask ourselves how do we need to inform ourselves for  
15 second license renewals. And so that's the process  
16 that we are starting here today.

17 Our discussions to date have largely  
18 focused on technical issues, safety issues  
19 associated with second license renewal. And,  
20 clearly, those issues are extremely important, and  
21 we are continuing to be concerned and asking the  
22 right questions associated with having the right  
23 technical basis for second renewals. But beyond  
24 that, there are other areas of license renewal which

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1 we believe are worth pursuing, and which we are going  
2 to pursue today.

3 One is the environmental track. That's  
4 clearly a companion track as part of our dual review  
5 process for license renewal. And we've also added as  
6 a third panel the broad topic of license renewal  
7 process. What is the appropriate regulatory approach  
8 that we take to license renewal, and in particular,  
9 of course, second renewal?

10 In addition to these three topic areas  
11 which we're going to be covering through three panels  
12 today, we also have allotted time at the end of the  
13 meeting for an open comment period where  
14 stakeholders can comment on anything that they wish  
15 associated with license renewal.

16 All of this information that is provided  
17 to us today is going to be useful to us in the Agency  
18 as we consider the regulatory framework and any  
19 guidance updates that are appropriate for second  
20 license renewal.

21 In addition, we are also looking to have  
22 subsequent meetings throughout the fall time frame  
23 in which specific issues that are identified today  
24 or that come to light through other means are going

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1 to be pursued, and again inform the process that we  
2 undertake for ensuring the right framework for  
3 second renewals.

4 In terms of the panelists, we are very  
5 fortunate here today to have a number of participants  
6 that have agreed to serve as panelists for us for  
7 these discussions. The NRC Staff in looking for  
8 panelists took a very broad view and wanted to ensure  
9 a balanced set of represented views on each of these  
10 panels, and as a result we have reached out and found  
11 participants from our federal partners, our federal  
12 stakeholders on license renewal, from the public  
13 interest groups, from the nuclear industry, as well  
14 as research organizations. So, we're very pleased to  
15 have a diverse balanced set of panelists  
16 participating today who represent a wide wealth of  
17 knowledge, and involvement, and experience in  
18 license renewal.

19 The insights that we gain today from  
20 these panelists, as well as from others who offer  
21 their comments is going to be very useful to us again  
22 as we continue to assess what needs to be in place  
23 as a regulator for second renewal.

24 Again, I thank you all for your

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1 participation today. We look forward to a very  
2 productive discussion, and at this time I'll turn the  
3 meeting back over to Stacie Sakai. Or, Lance, did you  
4 want to comment now?

5 MR. RAKOVAN: Sure. Why not? Good morning  
6 all, again. Lance Rakovan. I'm going to be helping  
7 to facilitate today's meeting, and hopefully keep us  
8 on task, keep us on time, all that kind of stuff.

9 There was handouts on the table that had  
10 an agenda, presentations, et cetera, so hopefully  
11 you grabbed some of those. Our agenda really today  
12 is fairly simple, although it doesn't look all that  
13 simple looking at it. We've got three primary topics  
14 that we're going to be looking at, and we're going  
15 to be following the same process for each topic.

16 We're going to have an NRC Staffer give  
17 kind of an overview introductory kind of  
18 presentation. We're going to look to our panelists  
19 for that topic to kind of give some opening  
20 statements and have a little bit of discussion. And  
21 then we're going to open it up for discussion both  
22 in the room and on the phone lines, as well. So,  
23 that'll kind of more or less be the pattern that we  
24 follow through the day.

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1           Keep in mind that we are here to discuss  
2 these issues, not necessarily come to any sort of  
3 consensus on them, so there's a pretty good chance  
4 that you're going to hear some opinions or some  
5 perspectives that you don't necessarily agree with  
6 and, you know, that's okay. We're here to hash  
7 through these issues and give everyone a chance to  
8 kind of have their say, and make some comments.

9           Again, in general, we're looking for our  
10 panelists to be the primary discussers. That's why  
11 this is a Category 2 public meeting by NRC's  
12 definition. But, of course, there are times where  
13 we'll be opening up for the wide audience, if you  
14 will, to participate.

15           Once we get to those points, if you want  
16 to participate in the discussion and you're here in  
17 the room just get my attention somehow. We do have  
18 the microphones here in the center of the room to use.  
19 If you are going to make a comment or ask a question,  
20 we ask that you give us your name and any group that  
21 you're with, as well, just so we have an idea as to  
22 who is making the statements.

23           We do have people on the phone lines, and  
24 we are recording and transcribing this meeting. So,

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1 if anything is going on in the room that I think is  
2 going to take away from that, any kind of electronic  
3 devices going off, side discussions, noise, that  
4 kind of thing, I'll take steps to kind of solve that  
5 problem. If things get out of hand, we can always take  
6 a recess and come back in once things calm down, and  
7 once we're able to take care of whatever the  
8 distraction is.

9           Sorry about that. For those of you who  
10 are here in the room, rest rooms are straight out the  
11 door to the right, and then they're on your left.  
12 Since we are a safety organization, I always like to  
13 go over where to go in case anything happens, if any  
14 alarms go off, or any of that kind of thing. You'll  
15 want to exit the room and head to your left. You'll  
16 see a little bit off to your left that there's an open  
17 plaza kind of area, so that's the place that you want  
18 to head to.

19           If you did park in the building, parking  
20 is complimentary, and they've got passes on the table  
21 outside. You can grab those and those will let you  
22 get out of the parking garage without paying.

23           We will be introducing our panelists as  
24 we go panel by panel, so I've got some bios that I'll

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1 be reading as we get to those, so I'm not going to  
2 do any introductions right now. But once Stacie is  
3 done with her initial presentation, I'll go ahead and  
4 introduce our panelists before they begin their  
5 first discussion.

6 So, thank you for attending today. Thank  
7 you for letting me get all that out there, and I will  
8 turn things over to Stacie.

9 MS. SAKAI: Thank you, Lance. Sylvia, I  
10 won't be using this because I don't know how to use  
11 it. It's too high tech for me. Next slide.

12 Lance went over the ground rules for  
13 this meeting, so if you need a quick refresher there  
14 they are. The next slide, please.

15 Good morning, again. My name is Stacie  
16 Sakai, and I'm one of two Project Managers within the  
17 Division of License Renewal in the Office of Nuclear  
18 Reactor Regulation coordinating the NRC's Staff  
19 activities associated with subsequent license  
20 renewal. The other Project Manager is Bennett Brady,  
21 and you'll hear from her later today.

22 The purpose of today's meeting is to  
23 provide interested stakeholders, as well as members  
24 of the public, an opportunity to provide issues for

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1 consideration for subsequent license renewal. To  
2 clarify, this is not a meeting to discuss any other  
3 ongoing license renewal-related activities, but to  
4 talk about subsequent or second license renewal.

5 A subsequent renewal, or second license  
6 renewal, the topic of this meeting, is when a plant  
7 with a renewed license applies for an additional  
8 extension for up to 20 years beyond the renewed  
9 license. To set up some background, the Atomic Energy  
10 Act set out a 40-year limit for initial licenses of  
11 U.S. nuclear power plants, and the act includes  
12 provisions to renew the reactor licenses.

13 Through the NRC review of the  
14 environmental and safety aspects of an application,  
15 if that's successfully completed, the Agency will  
16 renew a license for up to 20 additional years beyond  
17 the current license. To date, as Melanie mentioned,  
18 this process has led to the renewal of 71 units.

19 There are three topics today that we  
20 will focus on, and they are the process, the safety  
21 issues, and the environmental issues as they relate  
22 to subsequent license renewal. As Lance mentioned,  
23 the format of this meeting will be that the NRC Staff  
24 will provide opening remarks on each of the topics.

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1 Then the panelists, I have the process panel here  
2 with me, will discuss or provide a 10-minute  
3 presentation. Then there will be about a half an hour  
4 discussion for this panel, for the panelists to  
5 discuss amongst themselves, as well as a half an hour  
6 discussion for the entire audience. There will also  
7 be a half hour discussion at the end of the meeting  
8 for any issues not covered in one of these three  
9 topical areas.

10 In addition to the panelists you see  
11 here today, Mary Lampert is also on the phone as a  
12 panel participant for this panel. Next slide,  
13 Sylvia, please.

14 We do encourage comments on these three  
15 topic areas that I just discussed, as well as  
16 comments on any other issues which you think is  
17 prudent for the Staff to explore for subsequent  
18 license renewal. You may provide comments at  
19 specified times during this meeting, as well as  
20 emailing them to the email address on the screen,  
21 SLR.Resource@nrc.gov. Comments received by May 25<sup>th</sup>,  
22 2012 will be considered as part of the meeting  
23 -- will be part of the meeting summary, and other  
24 comments will be considered but they will not be part

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1 of the meeting summary.

2 In addition to today's meeting, the NRC  
3 Staff plans to have future meetings in the fall time  
4 frame on this topic to further discuss in detail  
5 those issues which arise today, and other issues that  
6 need to be considered for subsequent license  
7 renewal. Next slide, please.

8 This is an overall agenda. You have a  
9 detailed agenda as part of the handouts, but this is  
10 kind of an overall agenda. We'll discuss the process  
11 in the morning, the safety issues will straddle the  
12 lunch period, and environmental issues in the  
13 afternoon, and other issues, and then closing. We did  
14 plan on sticking to this schedule because there are  
15 people to discuss on each of these three panels who  
16 won't be here for the entire day, as well as to give  
17 everybody an opportunity to plan accordingly. So, if  
18 we do end any of these sessions early, we'll just take  
19 a break for a longer period of time.

20 Right now I will move on to the process  
21 discussion for license renewal, so next slide,  
22 Sylvia. As I mentioned, the Atomic Energy Act of  
23 1954 authorizes the NRC to grant a 40-year operating  
24 license for nuclear power reactors, and this 40-year

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1 term was based primarily on economic considerations  
2 and antitrust factors not on safety or technical  
3 limitations. And the Atomic Energy Act also allows  
4 for license renewal.

5 The National Environmental Policy Act  
6 of 1969, otherwise known as NEPA, established a  
7 national policy for considering the impact of  
8 federal decision making on the environment.

9 The NRC's governing nuclear safety,  
10 security, and environmental protection are  
11 contained in Title 10 of the Code of Federal  
12 Regulations, also referred to as 10 CFR.

13 In exercising its regulatory authority,  
14 the NRC's mission is three-fold; one, to insure  
15 adequate protection of the public health and safety;  
16 two, to promote common defense and security; and,  
17 three, to protect the environment. That's just some  
18 background. Next slide, Sylvia, please.

19 10 CFR 54, which is the rules in Title  
20 10 of the Code of Federal Regulations, lays out the  
21 rules for license renewal. Specifically, 10 CFR  
22 54.17 states that, "Applications for a renewed  
23 license may not be submitted more than 20 years prior  
24 to the expiration of the current license," and that

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1 rule, 54.31 more specifically, allows for renewals  
2 for up to 20 years.

3 As part of the review for license  
4 renewal, the NRC Staff performs a safety and an  
5 environmental review. Next slide, please. This slide  
6 is more of a flow chart of how the review is  
7 conducted. As you can see, there's two parallel  
8 review paths, the safety and environmental review.  
9 And these two reviews evaluate separate aspects of  
10 the license renewal application.

11 As part of the safety review, an  
12 independent review is performed by the Advisory  
13 Committee on Reactor Safeguards, or the ACRS, and  
14 they report directly to the Commission. There may  
15 also be hearings conducted if interested  
16 stakeholders submit concerns or contentions, and  
17 their request for a hearing is granted. The Atomic  
18 Safety and Licensing Board, or the ASLB which is an  
19 adjudicatory panel, will conduct these hearings.

20 As part of the environmental review on  
21 the upper half of this diagram, the Staff consults  
22 with local, state, federal and tribal office  
23 officials, such as the EPA. In addition, the Staff  
24 also holds public meetings and receives comments on

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1 Environmental Impact Statements, or the Draft  
2 Environmental Impact Statements.

3 Now, I'd like to describe the license  
4 renewal processing in a little more detail. Sylvia,  
5 please. Initially, an application is received, and  
6 if the license renewal staff determines that the  
7 application is sufficient and contains technical  
8 information to justify the staff's review, the staff  
9 will docket the application.

10 In addition, there is an opportunity for  
11 a hearing as part of the docketing and acceptance  
12 process. Then that's where the two paths break off  
13 into the safety and environmental review. And what  
14 you see on each of those are the major milestones for  
15 each of the reviews. The safety review has the SER  
16 with open items, an ACRS Subcommittee, the final SER,  
17 and then an ACRS Full Committee.

18 On the environmental side, there's  
19 an intent for scoping, an environmental scoping  
20 meeting, scoping comments are received from the  
21 public, the draft Supplemental Environmental Impact  
22 Statement is issued. Comments are received on the  
23 document, and then a final Supplemental  
24 Environmental Impact Statement is issued.

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1           Based on all those documents and those  
2 meetings, and the public input, if there is  
3 reasonable assurance that the effects of aging will  
4 be adequately managed, and the environmental impacts  
5 are not so great, then an Agency decision is made to  
6 renew the license. Next slide, please.

7           Those are the acronyms for those  
8 interested, if I missed any of them. With that, I  
9 would like to turn it back over to Lance to introduce  
10 each of the panelists.

11           MR. RAKOVAN: Okay. Thank you, Stacie.

12           And, again, we have one of our panelists  
13 participating through phone, that's Mary Lampert.  
14 Mary is the Director of Pilgrim Watch, a public  
15 interest group in Massachusetts. Mary represents  
16 Pilgrim Watch pro se as a party in the adjudication  
17 process regarding Entergy's license application to  
18 extend operations at Pilgrim to 2032. The legal  
19 proceedings began in 2006, and is ongoing.

20           Here in the room we have Dave Lochbaum.  
21 Dave is the Director of the Nuclear Safety Project  
22 for the Union of Concerned Scientists. His focus is  
23 on the safety levels at operating nuclear power  
24 reactors in the United States.

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1           We also have with us Richard Webster.  
2           Mr. Webster is currently an environmental attorney,  
3           enforcement attorney at Public Justice in  
4           Washington, D.C. His academic background includes a  
5           BA in physics from Oxford University, a Master's in  
6           engineering hydrology from Imperial College London,  
7           and a JD from Columbia Law School. Through Public  
8           Justice, he has represented citizens groups in a wide  
9           range of matters, including the review of the  
10          decision by the NRC to re-license the Oyster Creek  
11          Nuclear Power Plant, and providing advice to  
12          Clearwater regarding the licensing of the Indian  
13          Point Nuclear Power Plant.

14          And we also have Mr. Garry Young. Mr.  
15          Young is currently working in the Entergy Nuclear  
16          Business Development Organization in Jackson,  
17          Mississippi. And in addition to Business  
18          Development, he manages the License Renewal  
19          activities for Entergy's fleet of 11 operating  
20          nuclear power plants.

21          Mr. Young has more than 35 years of  
22          nuclear power plant experience. He is a member of the  
23          Nuclear Energy Institute's License Renewal Task  
24          Force, a member of the ASME Special Working Group on

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1 nuclear plant aging management, and has served as an  
2 invited expert for the International Atomic Energy  
3 Agency, and the World Association of Nuclear  
4 Operators in the areas of license renewal, long-term  
5 operation, and plant life management.

6 Mr. Young has a BS and MS degrees in  
7 mechanical engineering from the University of  
8 Arkansas, and an MBA from the University of Arkansas  
9 at Little Rock.

10 So, those will be our panelists for the  
11 process discussion. We have given each of them an  
12 opportunity to make a short opening statement, if you  
13 will. And then, again, we'll let them kind of chat  
14 things over, and then open it up for the discussion  
15 at large. So, Mr. Lochbaum, would you like to start  
16 us on it?

17 MR. LOCHBAUM: Sure. Good morning, and  
18 thank you for this opportunity to share our insights.

19 The first concern I wanted to talk to you  
20 from a process standpoint is something that Brian  
21 mentioned in his remarks, and it deals with the fact  
22 that over the time the NRC has revised its license  
23 renewal standards, we think that's a positive thing,  
24 and we don't think that's reflective of a mistake by

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1 the NRC that the initial standards should have been  
2 higher. We think it's reflective of a learning  
3 process as the various reviews were undertaken, and  
4 as emerging issues came to light, the NRC properly  
5 revised its license renewal standards through a  
6 public process. So, we think that was a very healthy,  
7 positive reality-based approach to dealing with the  
8 issues.

9 The concern we have associated with that  
10 is that it's not retroactive. The example we provided  
11 to the NRC earlier this year was the Ginna and Point  
12 Beach plants that were identical in design and  
13 operating history to the extent that two plants ever  
14 are.

15 They were licensed or relicensed 19  
16 months apart. Ginna did not have an Alloy-600  
17 Management Program formally reviewed and accepted by  
18 the NRC. The NRC required that of the Point Beach  
19 application before its license was renewed.

20 The NRC has told us that both of them  
21 were okay, but we questioned that because if it was  
22 determined that neither one of them had an Alloy 600  
23 Management Program, even deliberately, we wonder  
24 what the NRC -- what leverage the NRC would have to

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1 compel the Ginna plant to do so. It's not part of  
2 their renewed license. There's no legal obligation  
3 for them to have it. It might be a nice desire, it  
4 might be something they're doing, but it's vastly  
5 different, and we don't think that the people around  
6 Ginna are being properly protected.

7           So, we think the NRC needs when it  
8 revises its standards for license renewal, it needs  
9 to retroactively apply those to previously  
10 relicensed plants. That's what the law requires,  
11 that's what we think NRC should be doing.

12           Our second concern is similar, but  
13 somewhat different, in that the NRC does not consider  
14 when it relicenses plants, doesn't consider  
15 exemptions, waivers, and other grandfathering from  
16 regulations that have been adopted by the NRC over  
17 time to see if those exemptions, waivers, whatnot are  
18 still applicable to the plant being relicensed.

19           Some of the examples we gave are the  
20 seismic criteria that were formally revised by the  
21 NRC in the mid-1990s to apply to new reactors in the  
22 Central and Eastern United States. Subsequent to  
23 that, the NRC relicensed the North Anna plants to the  
24 old seismic criteria. The new reactor at North Anna

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1 which has to meet the new requirements for seismic  
2 motion, the two relicensed plants it was never even  
3 considered. We think that's a flaw in the license  
4 renewal process, the new regulations, new regulatory  
5 standards need to be reviewed to see if they should  
6 be applicable.

7 We're not saying, by the way, that that  
8 means that all relicensed plants have to meet those  
9 new standards. What we are saying is that they should  
10 be reviewed against those new standards to see if the  
11 reasons for the waivers, exemptions, or whatever  
12 still apply. If so, then they still apply. If not,  
13 then something needs to be done with it. They need  
14 to be formally reviewed.

15 A third concern is that right now the  
16 process is identifying cost beneficial safety  
17 upgrades. The applicant's for license renewal are  
18 doing so, yet none of them are being implemented. I  
19 would hate to be in those licensee's shoes, or the  
20 NRC's shoes if one of those safety upgrades factored  
21 into an accident some day.

22 Both you and the applicant knew that  
23 this was a safety upgrade that was cost beneficial  
24 for the public, yet it wasn't implemented. It would

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1 seem like it would open up the licensee for criminal  
2 actions since they knew that this was a problem that  
3 would be cost beneficial to fix, and they didn't. And  
4 it would open the Agency up to criticism like is  
5 currently being levied at the Japanese regulator  
6 that you failed to protect the public from a safety  
7 hazard you knew to exist. I would hate to be in your  
8 shoes if that were to happen. Of course, I'd hate to  
9 be in the shoes of the public who died as a result  
10 of that, but that's another thing.

11           Somewhat related, in February of 2011,  
12 the *New York Times* reported that the federal agencies  
13 are under-valuing human lives when they do cost  
14 benefit and risk studies. The *Times* reported that  
15 Office of Management and Budget said that agencies  
16 could not justify less than \$5 million per life.  
17 That's way higher than what the NRC uses. The NRC's  
18 value, as we understand it, hasn't been revised even  
19 for cost of inflation changes since 1991.

20           When you're doing cost benefit studies  
21 and you're under-valuing human life, we do notice  
22 that cost of equipment has been adjusted for cost of  
23 inflation and other things, but the value of human  
24 life on the other side of the equation is stuck in

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1 the '90s. That's wrong, that needs to be fixed, not  
2 only for license renewal, but elsewhere.

3 We're also concerned that the current  
4 process allows bait and switch by NRC's licensees to  
5 the people who get the renewed licenses. The Vermont  
6 Yankee plant is the classic example. During the  
7 review of its license renewal application, the NRC  
8 Staff expressed reservations about how this  
9 applicant was manually accounting for thermal  
10 cycles. To satisfy that NRC concern and to get the  
11 license renewal, the applicant said -- made a  
12 commitment, License Commitment number 6 to use a  
13 computerized program called FatiguePro. Shortly  
14 after getting the renewed license, they submitted a  
15 change saying no, we're not going to do that  
16 commitment. We're going to go back to the manual  
17 accounting process. So, you made a commitment to get  
18 the license renewal, and as soon as you got the  
19 license renewal in your hands you basically reneged  
20 on your commitment. That's unfair. The NRC shouldn't  
21 allow such sleazy, slimy antics, or at least minimize  
22 the number of sleazy, slimy antics that the licensees  
23 do.

24 Our last concern in the process area has

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1 to do with the fact that it's the second license  
2 renewal. For the first renewal period, the NRC did  
3 a screening process of issues and screened out some  
4 issues as being generic, and not applicable to the  
5 license renewal process.

6 We think that for the second license  
7 renewal, that screening should be redone to see if  
8 the reasons for issues being binned the way they are,  
9 either generic or plant-specific, and within license  
10 renewal scope, still come out in the same categories.  
11 It may well be that that rescreening ends up with  
12 everything in the same process, but we think license  
13 renewal, things have changed. It would be good to go  
14 back and revisit that process and see if the things  
15 that have changed, like standards have changed over  
16 time, if that also changes how things are screened  
17 through that generic process. So, I think it's  
18 worthwhile to go ahead and do that.

19 Again, we're not predicting that things  
20 will stay the same or change, but it's necessary  
21 -- we think it's necessary to formally redo that  
22 screening process to see what the results will be.  
23 Thank you.

24 MR. RAKOVAN: Thank you, Mr. Lochbaum.

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1 Why don't we go ahead and go to the phone lines and  
2 see if Ms. Lampert would like to give her statement  
3 at this point.

4 MS. LAMPERT: Hi. Yes, good morning. Mary  
5 Lampert, Pilgrim Watch. I am in the ongoing  
6 proceeding in Pilgrim's license renewal, and from it  
7 have perspectives particularly because I've been  
8 representing pro se and paying for it out of my own  
9 personal pocket, which gets me to the very first  
10 point I'd like to make regarding funding public  
11 participation.

12 In order for the public's right to  
13 intervene to be meaningful, NRC must subsidize  
14 public intervenor's cost of participation at least  
15 for the full cost of witness fees. We understand  
16 looking at the history of this going back certainly  
17 to the '70s that NRC has fought this, and it's wrong.  
18 It's very understandable that public interest groups  
19 cannot compete with the deep pockets of industry, nor  
20 if NRC legal staff is allowed to continue to play  
21 where the monies and expertise and availability of  
22 witnesses that NRC staff can bring to the table.

23 If you are interested to continue with  
24 Part L proceedings, the roll of the witness is key.

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1 So, therefore, this is number one, if NRC is sincere  
2 that they want meaningful public participation as  
3 opposed to the pretense of public participation.

4 I also will add to this that there is no  
5 opportunity, as you must appreciate, for public  
6 interest groups to get the free services of pro bono  
7 from most of the firms because they have conflicts  
8 of interest, number one, or they hope to have  
9 business from the industry and do not want to bite  
10 the hand that potentially could feed them.

11 Tied to this there should be an  
12 allowance for witnesses to appear at hearings via  
13 video conference. This would provide significant  
14 cost-savings to allow them to appear by video.  
15 Technology certainly allows us to do this, and NRC's  
16 other meetings where they seek public participation  
17 certainly allows appearance either by video or by  
18 telephone.

19 Another very important issue is who can  
20 play. I fully object to the NRC legal staff being  
21 allowed to be a party to the hearings. This places  
22 -- I don't think you can find a license renewal in  
23 all of the adjudications that have occurred so far  
24 where the NRC has not been quietly on the side of the

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1 industry. So, therefore, it is two against one. There  
2 are always two answers, almost identical to reply to.  
3 There is double the capability for witnesses, and  
4 it's plainly unfair.

5 Second, as far as scope goes, I agree  
6 with the comment that Mr. Lochbaum brought forward,  
7 and it is clear that if you look at the issues that  
8 the public is interested in, and I would say the  
9 issues that would, perhaps, affect whether a  
10 license, in fact, went forward, such as health, such  
11 as radioactive waste, such as emergency planning,  
12 all those issues, in particular, are in fact  
13 site-specific, but they're not allowed to be brought  
14 forward on the table. So, it seems that it is  
15 necessary to look again at the justification taking  
16 off scope what, in fact, the public cares most about.

17 As far as the hearing process goes,  
18 you've got Part D, you have Part L, you can have both  
19 in the same proceeding. It seems like the most  
20 convoluted and confusing system whether, in fact,  
21 you're a real lawyer or not. So, I think these have  
22 to be looked at again. But bottom line, you remain  
23 with Part L, clearly there should be an allowance,  
24 a requirement for a meaningful opening and closing

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1 statement, and cross-examination allowed across the  
2 board. Without cross-examination it turns into a  
3 joke.

4 Another important issue that I would  
5 bring forward has to do with the fact that when the  
6 application is filed, 10 CFR 54.13 requires that all  
7 applications be complete and accurate in all  
8 material respects. However, we all know this is  
9 ignored, and the applicant is allowed to make  
10 substantive additions and changes long after the  
11 application is docketed.

12 On the other hand, the public is  
13 required to adhere to strict standards. Now, if the  
14 applicant can dribble in information after the  
15 application is filed, it does not seem reasonable  
16 then that petitioners would have to cross a higher  
17 hurdle and file a late filed or perhaps even a request  
18 to reopen the record. If the information is newly  
19 brought to the table by the applicant, or by the NRC,  
20 it would seem then that the parties, other parties  
21 would be able to address that after a 60 or 120-day  
22 period so they could, in fact, study that issue.

23 That would also go for the Staff's  
24 Environmental Impact Statement. The requirement

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1 now, one would think that you as a petitioner could  
2 file after the final document was filed, not as it  
3 is now, and you have to file on the draft unless the  
4 final is substantively different from the draft.  
5 That seems like a backwards process issue to me.

6 And I think those essentially are my  
7 main comments. There are many more other detailed  
8 ones, but I think the takeaway is from our  
9 perspective, and talking to other petitioners, the  
10 feeling is that rules were designed to beat the  
11 clock, to get approval of the license as soon as  
12 possible without the licensee essentially have to  
13 spend a dime for mitigation to protect public health  
14 and safety, and the environment. And if, in fact, the  
15 NRC indeed wants meaningful public participation,  
16 which I hope they do, then the priority will switch  
17 to where it should be, preserving public safety and  
18 the environment, and not simply to get that license  
19 done quickly. Thank you very much.

20 MR. RAKOVAN: Thank you, Ms. Lampert.  
21 Let's go ahead and go to Mr. Webster, please.

22 MR. WEBSTER: Good morning, I'm Richard  
23 Webster. Thanks so much for asking me to participate  
24 in this meeting. I actually think it's a little early

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1 to be thinking about this stuff, but I guess since  
2 you have 20 years to allow applications to come in  
3 20 years prior to the expiration of a license,  
4 anybody in the extended operation period can  
5 actually apply for a license. So, I think that's the  
6 first thing I would note, is that that's obviously  
7 far too early. We've got to ensure that people cannot  
8 apply for licenses before there's any chance of  
9 proving, or them meeting their burden of proof that  
10 safety will be met.

11 For process, I'm going to concentrate  
12 primarily on the intervention process. And I just  
13 want to pick up some of the things that Pixie Lampert  
14 so wisely mentioned. First of all, the rules for  
15 intervention are incredibly intricate. I describe  
16 this game of Chutes and Ladders, except there are no  
17 ladders. Basically, it's a series of trap doors. If  
18 you don't say the magic words, you're out.

19 I'm not sure if there's any reason for  
20 that just beyond somebody sometime decided they  
21 didn't really like public participation. Public  
22 participation is a requirement under the Atomic  
23 Energy Act. I strongly believe, and I think the track  
24 record of public participation in relicensing shows

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1 that public participation improves decision making.

2 Yes, it can be messy. Yes, sometimes  
3 people don't get it exactly right, but you know what,  
4 an error in fatigue calculation at seven reactors  
5 only came out because of an intervenor at a  
6 relicense. Exelon only found corrosion on its  
7 containment at Oyster Creek because it was in the  
8 relicensing process. Exelon only monitored that  
9 corrosion because it was in a contested relicensing  
10 process.

11 There are numerous other examples of  
12 public participation improving decision making, so  
13 let's start with the first point, which is let's  
14 welcome public participation. Let's use it as a tool  
15 to improve decision making. So, let's dispense with  
16 the game of Chutes and Ladders. This is not a game.  
17 This is a serious issue. And let's try to actually  
18 make it so that the public can intervene easily and  
19 efficiently.

20 Just to back up my statement how hard  
21 these rules are to meet, I think we had 45 relicenses  
22 went through without any public hearing at all. The  
23 one I had the misfortune to get involved in was the  
24 first public adjudicatory hearing on a relicensing,

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1 and that was I think the 45<sup>th</sup> or 46<sup>th</sup> relicensing.  
2 That's not good enough. That should be counted by NRC  
3 as a failure, because not only you have a legal  
4 obligation to have public participation, it also  
5 makes sense. So, I hope somebody in NRC has got that  
6 down as a big black mark. That's a failure.

7 Office of General Counsel should have a  
8 big black review saying failed for first time  
9 relicensing. So, what do we need to do, and just so  
10 you don't see my complaining the whole session, I  
11 have a few solutions, too. We need to change the  
12 public process. Okay? First thing, deadlines are far  
13 too early. As Pixie says, at the moment, actually you  
14 don't even file on the DSEIS for NEPA contentions.

15 Just to back up a little bit, the process  
16 is sort of like the Elizabethan court in England. You  
17 have to basically say the magic words very, very  
18 early in the process, and you basically have to get  
19 your crystal ball out and say well, I think even  
20 though the DSEIS or the FSEIS won't be written for  
21 three years, I'm pretty sure it will be deficient in  
22 these areas. So, I'm going to predict now it's going  
23 to be deficient in these areas. I'm going to put in  
24 a contention, actually not about the DSEIS, not about

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1 the FSEIS, I'm going to put in a contention about the  
2 applicant's environmental report.

3 Similarly on the safety side, even  
4 though the SER is just in the hatching, numerous  
5 requests for additional information are going to be  
6 exchanged, the proposal for how the plant is going  
7 to be managed over time is going to change  
8 significantly, we have to file three years before  
9 that making a prediction about what that SER will  
10 look like, and what the applicant will commit to.

11 It's obviously a waste of time. It's  
12 obviously designed just to get rid of people. It  
13 works pretty well, I have to say, if that's your goal.  
14 If your goal is to get rid of public intervention,  
15 why don't you set the deadlines a little earlier? Why  
16 not set them before they even file the application,  
17 you know. That would make it really hard for people.  
18 But if you actually do want to encourage public  
19 participation, the way to do it is to let people wait  
20 and see the exchange of information between the staff  
21 and the applicant, and see what is actually in the  
22 FSEIS.

23 I mean, for instance, intervenors first  
24 of all are required to put comments in on the DSEIS.

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1 There's no point putting comments in. If the NRC  
2 addresses your comments, then you've mooted yourself  
3 out of the proceeding. So, you know, you kind of work  
4 against yourself. So, why not give the staff an  
5 honest chance to get it right in the FSEIS, give the  
6 applicant a chance to actually improve their  
7 application where they're actually managing aging  
8 and hopefully other issues effectively. And then let  
9 intervenors come in at the later stage.

10 And then my suggestion is because then  
11 there's this catchup game of basically trying to moot  
12 people out. What the game is, and Exelon is good at  
13 playing this, and Entergy is also pretty good at  
14 this, which is that the game is let's see we can  
15 improve our application just enough to get rid of  
16 this contention. So, for instance, in the Oyster  
17 Creek situation, in the litigation there, I think  
18 Exelon improved its aging management five times in  
19 an attempt to get rid of the contention. That's  
20 ridiculous. That means we are always chasing a moving  
21 target.

22 So, once the FSEIS and the SER come out,  
23 once the contention has been filed, we need to freeze  
24 the application and basically let the applicant and

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1 the intervenor go to settlement. And, finally, the  
2 staff in these areas should butt out. But the Staff  
3 had its chance, it's written its FSEIS. It's written  
4 its SER, now it needs to forget being part of the  
5 hearing, forget defending the applicant. The  
6 applicants have enough resources so they can defend  
7 themselves. Again, it's their application, it's not  
8 the staff's application. It's not the staff's job to  
9 defend the applicant.

10 If the applicant has pulled the wool  
11 over the staff's eyes, the staff should welcome the  
12 wool being pulled away. So, the staff needs to butt  
13 out of these proceedings, needs to stop supporting  
14 the industry, and needs to let a fair fight commence.

15 To get a little less conceptual, more on  
16 the actual hearing process itself, make it fish or  
17 fowl. What I mean is either make it simple, make it  
18 easy for people to participate, make it easy for lay  
19 people like Mary Lampert who have not been anointed  
20 in the wonders of law school to actually do these  
21 hearings, or actually give us a process that gives  
22 us trial-type protections.

23 At the moment, as a lawyer I'm  
24 frustrated by the informality of the process. Mary

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1 is frustrated by the formality of the process. We're  
2 stuck in the middle where we're neither fish nor  
3 fowl, so let's make up our minds, do we want a simple  
4 process, come one come all, you know, say your piece,  
5 let's have a little bit of cross-examination, and  
6 then let our learned Licensing Board judges sort  
7 things out, or do we want to have a very strict trial  
8 type process with evidentiary protections, good  
9 discovery and so forth. I'm kind of on the fence on  
10 that, but let's make it one or the other, not give  
11 us the weaknesses of an informal process with the  
12 difficulty of a formal process.

13 I think we need to expedite the hearing  
14 process. The industry is always on expediting the  
15 hearing process, but it's remarkable how once you get  
16 into litigation they don't seem to be that keen on  
17 expediting things at all. Similarly, the NRC's  
18 justification of these rules was efficiency, but  
19 it's incredible how inefficient these rules are. If  
20 you look at the Oyster Creek proceeding, huge amounts  
21 of motion practice because the rules are poorly  
22 written, they're unclear, and the industry is  
23 desperate normally to actually avoid going to a  
24 public hearing. So, I think we can expedite the

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1 hearing process, we can eliminate motion practice.

2 If we don't want to have, for instance,  
3 strict evidentiary rules. Let's just get rid of  
4 motions in limine all together. If we're not going  
5 to -- if we're going to expedite the process, let's  
6 get rid of summary disposition.

7 A couple of other things.  
8 Cross-examination, the danger with a public hearing,  
9 if you go to a public hearing, the public hearings  
10 we have at the moment, there haven't been that many  
11 of them, but I've been to a couple, and the danger  
12 is that the public won't see it as a valid hearing.  
13 Right? There's a panel of three judges. They say  
14 well, Dr. So and So, you know, why don't you tell us  
15 why everything is fine. The public says what, what's  
16 the problem? You know, so what we need to do with the  
17 process, with the hearing is make it so it looks a  
18 little more like a real trial to the public. And the  
19 only way to do that is to provide cross-examination.

20 We need to construe the facts in favor  
21 of intervenors, in other words -- and this should be  
22 done already, actually, but it isn't, it needs to be  
23 very clear that where something is -- where there's  
24 a lack of evidence in the record, it should be

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1 construed in favor of the intervenors, not against  
2 them.

3 Okay. Final important issue, as you  
4 probably know in the initial licensing process  
5 there's something called mandatory hearings where  
6 even if an intervenor doesn't come forward, the  
7 Licensing Board, basically, now the Commission, I  
8 think, takes the applicant to task.

9 Now, I happen to believe, perhaps  
10 controversially that the NRC Staff are not perfect.  
11 So, I think this second check is a very useful check.  
12 I think actually if you look at the ESP proceedings  
13 they have done very well by the Licensing Board  
14 judges. Perhaps a little too well, because after that  
15 the Commission then took it over from the Licensing  
16 Board. I think this kind of detailed analysis can't  
17 be done by the Commission. It's kind of silly to have  
18 five Presidential appointees attempting to go  
19 through a licensing application in detail and figure  
20 out where the technical errors are. This needs to go  
21 back to the ASLB.

22 I was at a Senate hearing some time ago  
23 and a couple of commissioners were asked well, isn't  
24 it inconsistent that you have mandatory hearings for

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1 licensing, but there's no mandatory hearing for  
2 relicensing, and they said oh, yes, it is  
3 inconsistent. We'd like to get rid of mandatory  
4 hearings completely. That is the wrong way to go.  
5 Believe me, there are plenty of errors. I mean, you  
6 know, depending on how you -- you can look at the  
7 relicensing glass as half full or half empty, but  
8 there are plenty of errors that got through there.  
9 I mean, what Dave was saying about things that were  
10 initially approved, and then subsequently weren't  
11 approved shows you that plenty of things slip by the  
12 process.

13           And one of the reasons for that is there  
14 was not a good external check. Actually, there wasn't  
15 good quality assurance. There were many, many  
16 problems. There's an OIG report that I recommend to  
17 you which highlights numerous problems in the  
18 initial licensing process. Sorry, in the relicensing  
19 process as it was done for the first probably 60  
20 plants. So, we need this mandatory check, and we  
21 can't rely on the efforts of people like Pixie just  
22 doing the impossible in their spare time over their  
23 kitchen table. Unfortunately, there are not that  
24 many Pixie's around, so what we need to do is

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1 institutionalize this, make sure we have quality  
2 assurance, make sure we have checks, and make sure  
3 we have a mandatory hearing. So, that's all I have  
4 to say for this morning. Thank you.

5 MR. RAKOVAN: Thank you, sir. And just so  
6 everybody is aware, Mary Lampert's nickname is  
7 Pixie, so when he was referring to Pixie, that's our  
8 other panelist, Mary Lampert. I just wanted to make  
9 sure everyone in attendance was aware of that.

10 MS. LAMPERT: And I'll add to that, now  
11 I've turned 70. I'm old enough for either name.

12 (Laughter.)

13 MR. RAKOVAN: Fair enough. If we could go  
14 to our last panelist, Mr. Young, please.

15 MR. YOUNG: Okay. Thank you very much for  
16 allowing me to participate in this discussion.  
17 Regarding the process for subsequent renewal, first  
18 of all I'd like to say the current license renewal  
19 process has been well tested over the past decade.  
20 The first applications were submitted in 1998, and  
21 there have been a number of refinements made, some  
22 of which you've heard about already, to ensure that  
23 the regulations are appropriate and well defined, to  
24 ensure safe continued operation.

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1           The industry wants to keep this option  
2 open for subsequent license renewals, and through  
3 some proactive and collaborative efforts involving  
4 the Department of Energy, EPRI, the Nuclear Energy  
5 Institute, and the NRC work is continuing on the  
6 guidelines and the technical information to support  
7 the ongoing long-term continued safe operation.

8           I'm convinced that the Part 54 will  
9 serve the public and the industry interest well for  
10 subsequent license renewal. Based on the decade plus  
11 experiences that we already have, and continued  
12 reliance on Part 54, will insure a stable,  
13 predictable, and a transparent process.

14           The NRC and the industry efforts to  
15 continually improve aging management programs  
16 should continue, such that lessons learned and  
17 operating experience are incorporated and applied as  
18 part of the subsequent license renewal process. This  
19 approach has worked well for the first license  
20 renewals, and should continue as the primary focus  
21 for subsequent license renewals. This will,  
22 necessarily, result in some revisions to the  
23 industry guidance documents, such as NEI 95-10, as  
24 well as the regulatory guidance documents, such as

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1 the Standard Review Plan, and the GALL report. And  
2 we as the industry look forward to working through  
3 this process collaboratively with the NRC and with  
4 the other stakeholders, and keep this option open.  
5 Thank you.

6 MR. RAKOVAN: Okay. We'd like to open it  
7 now, if any of the panelists would like to kind of  
8 build off of or ask any questions to the other  
9 panelists in terms of the statements that they have  
10 made. Dave, if you'd like to start us off.

11 MR. LOCHBAUM: Just a few things. Mary  
12 talked about intervenor funding, and we support the  
13 notion but there's also -- it's not clearly black and  
14 white. There's some consequences, as well. So, I  
15 guess the one thing we'd ask the NRC to consider is  
16 looking at other federal agencies to see if  
17 intervenor funding is -- other agencies use it. And,  
18 if so, if there's any suitable model that the NRC  
19 might adopt. I know of some at the state level. I'm  
20 not -- I only really follow the NRC, so I don't know  
21 if other federal agencies do so, but I think the NRC  
22 might benefit from looking at its other agencies to  
23 see if there's a role model that might inform a  
24 decision one way or the other at the NRC.

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1           A couple of things that both Mary and  
2 Richard spoke to, I'd like to reinforce, and that's  
3 the difficulty of public participation in the  
4 process. I've never, ever helped Mary or anybody else  
5 as an expert witness, not because I lack the  
6 technical ability, or the fact that they didn't ask  
7 for that help. And I'm sorry, Mary, for turning you  
8 down many, many times, but it's just the process  
9 makes it impossible for UCS to participate.

10           As Mary pointed out, the inability to  
11 video conference or engage in a useful way, we lose  
12 so much travel time to a hearing that it doesn't  
13 justify the 15 minutes that you get when you're  
14 there. Coupled with that, something Richard pointed  
15 out with the expedited hearing process, if you agree  
16 to participate as an expert witness in a case, you  
17 know that at some point there's going to be a  
18 tremendous demand on your time over the next decade.  
19 You don't know exactly when it's going to be, because  
20 no matter when it's scheduled, it's never that date.  
21 It's always later than that, so it's difficult to see  
22 if you can really honor that commitment when that  
23 unspecified demand comes.

24           If there was more discipline to the

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1 process, and it was more amendable to participation,  
2 it might be harder to turn down a request from Mary  
3 or Richard, or anybody else to be an expert witness.  
4 But right now, even though we fund our own work, we  
5 just can't commit because it's -- you never know when  
6 that call is going to come through. And it's just  
7 -- it's wrong. We just can't not -- we did early in  
8 some -- not license renewal, we did some other ASLB  
9 cases and the lesson we learned from that was it's  
10 -- without novocaine the process just isn't worth  
11 it, and that needs to be fixed.

12 If the NRC really wants public  
13 participation, they've got to make it easier than it  
14 is now. My hats off to Mary and others who try it,  
15 because I don't have the guts to try that process.

16 MS. LAMPERT: Hi, Dave. How would you  
17 feel if my suggestion to appear via video conference,  
18 then you wouldn't have your travel time. You could  
19 be at your desk. And would that make you more likely  
20 to agree to be a witness for a public interest group?

21 MR. LOCHBAUM: That solves part of the  
22 problem, is the time devotion, but the other part of  
23 the problem is that video conference going to be  
24 tomorrow, a month from now, a year from now, or a

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1 decade from now? That's beyond your control. Right  
2 now the process, you don't know when that -- so that  
3 would make it a little bit easier, but I need to be  
4 able to make sure that I can honor that commitment  
5 and know --- the other problem I've had in the past  
6 with the ASLB hearings is that it gets delayed three  
7 or four times. So, about the fourth or fifth time you  
8 say well, it's not really going to happen. I'm not  
9 going to prepare, and you get notice two days before  
10 that you have to appear, so you end up showing up not  
11 as well prepared because you kind of like Peter and  
12 the Wolf, people --- ASLB cried wolf so many times  
13 that you stop paying attention. So, as Richard says,  
14 there needs to be more discipline, more scheduler  
15 discipline to the process; otherwise, nobody is  
16 going to take it seriously.

17 MS. LAMPERT: Can I comment on your  
18 request for information regarding funding. There has  
19 been numerous studies, the American University Law  
20 Journal, for example, had very long articles on  
21 efforts in the '70s, '80s. Senator Kennedy put  
22 forward S270 in 1977. There is the Government  
23 Accounting Office, is responsible, or was  
24 responsible for doling out responsibility to various

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1 federal agencies, has left it up to the federal  
2 agencies to decide whether they were going to opt  
3 into the program. NRC fought it tooth and nail.  
4 Congressman Markey attempted to get --- now it's in  
5 the hands of Congress, tried to get legislation  
6 through, again NRC fought it tooth and nail. And so  
7 the issue really is for NRC to decide yes, we want  
8 public participation, and unless we have blinders  
9 on, we realize funding is going to be required so  
10 we're going to push it as opposed to fighting it. The  
11 GAO also has done reports on this issue. It's been  
12 studied.

13 MR. WEBSTER: I'd like to ask a couple of  
14 questions of my fellow panelists. Garry, I think, and  
15 Stacie, perhaps. Really there are two questions I  
16 have. One is, is industry satisfied with the level  
17 of public participation that's been available so  
18 for? Is the Agency satisfied with the level of public  
19 participation? And the second question is do either  
20 dispute my assertion that increased public  
21 participation improves decision making?

22 MR. YOUNG: I'll start. Yes, I think the  
23 public participation has been quite evident in the  
24 license renewal process. There's plenty of

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1 opportunity during the public meetings, during the  
2 -- for example, the scoping meetings for the  
3 environmental review. Of course, the process of  
4 allowing for contentions to be raised. I do agree the  
5 ASLB process is very difficult and very complicated,  
6 but the actual involvement of the public and the  
7 opportunities are there, and they have been taken.

8 MR. WEBSTER: And the question about  
9 public participation improving decision making?

10 MR. YOUNG: Yes, I agree. I agree. And  
11 on that point I'd like to also mention that you  
12 mentioned earlier about when a contention comes in  
13 and the efforts are made to get rid of the contention.  
14 I would phrase it differently and say efforts are  
15 made to address the contention so that it no longer  
16 has to go to hearing. And that's, I think, part of  
17 the public participation when an issue is raised,  
18 such as a challenge to an aging management program,  
19 something to the effect of maybe level of detail,  
20 then the licensee then provides that information as  
21 part of the process so that it doesn't have to go to  
22 hearing by addressing the contention, so that's the  
23 way I would --

24 MR. WEBSTER: Right. No, I agree, we

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1 should address it, but I guess I'm saying instead of  
2 having the NRC and the applicant address it without  
3 involving the person who's actually bringing forth  
4 the contention, the process should be that the  
5 applicant discusses that contention with the  
6 intervenor.

7 MR. YOUNG: And that does happen.

8 MR. WEBSTER: I know it happens, but very  
9 rarely because you had the opportunity of closing it  
10 out by working with the NRC, which generally you  
11 perceive as a more friendly agency than the  
12 intervenor. So, certainly on public participation  
13 the question is what's meaningful. Lots of words are  
14 spilled at various comment sessions, but those  
15 aren't meaningful words because they don't really  
16 affect the way the license is done. And they don't  
17 really affect the way that the EIS is done, so I would  
18 assert to you that both the NRC and the industry love  
19 meaningless public participation. I point to comment  
20 sessions where people show up and spend the day sort  
21 of commenting away, but they really don't like  
22 meaningful public participation where actual  
23 weaknesses are identified and they have to be  
24 addressed.

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1 MR. YOUNG: I disagree.

2 MS. SAKAI: Well, I think the Agency does  
3 strive to engage the public as shown during this  
4 meeting and other forums, especially in the license  
5 renewal area. There's a number of public meetings  
6 held on the environmental as well as the safety side  
7 through the ACRS meetings, so I think participation  
8 does help in our process. It does help improve our  
9 process.

10 During the revision of the license  
11 renewal guidance documents we had a number of public  
12 meetings where a lot of people were able to  
13 participate both through public meetings, as well as  
14 through submitting written comments. So as a  
15 division, especially in license renewal, we do  
16 strive for as much public participation as possible,  
17 allowing for this meeting as well as numerous future  
18 meetings. And another way is through emailing us with  
19 your comments through this -- as a result of this  
20 meeting, and any future comments about subsequent  
21 license renewal.

22 MR. WEBSTER: Of the 71 relicensings so  
23 far, how many have gone to hearing?

24 MS. SAKAI: Well, I know Oyster Creek was

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1 the first one that really did go through a hearing  
2 process. There are other that had contentions  
3 admitted but not all of them went to hearing.

4 MR. WEBSTER: I guess what I'm asking is  
5 have you measured how many went to hearing. Do you  
6 have a metric for that? Are you measuring that, and  
7 do you have a goal plan?

8 MS. SAKAI: No, I'm not aware of any goal  
9 for the number of plants that actually do go to  
10 hearing.

11 MR. WEBSTER: Well, I think it's probably  
12 been -- I think I would say it's been less than five  
13 that's gone to hearing, five out of 71. It doesn't  
14 sound like a very high mark to me.

15 MS. SAKAI: Okay, we'll take that  
16 comment.

17 MS. LAMPERT: Yes, I would agree with  
18 that. This is Mary Lampert. And as far as the public  
19 meetings go they're certainly more of a PR event than  
20 anything else. And I can say this having gone to not  
21 only Pilgrim's but Seabrook's that have occurred so  
22 far, because in reality if that's your public  
23 participation at these hearings, the public does not  
24 have witnesses, expert reports, opportunity to reply

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1 to the other side's expert reports, et cetera. And,  
2 quite frankly, I have not seen much difference  
3 between, for example, a draft SEIS and the final  
4 document. In fact, they looked exactly the same to  
5 me which I think is indicative of the effect of  
6 comments heard by the public.

7 MR. WEBSTER: Perhaps I could pick this  
8 up and say it could be a metric driven process. It  
9 would be very interesting to see, to me, how many  
10 words got changed in an FSEIS versus a DSEIS, versus  
11 how many words were spent in comment. I think you'd  
12 find that ratio is surprisingly low, the number of  
13 changes are much smaller than the number of comments.  
14 I think all that's showing you is you have an  
15 ineffective public comment process going on. But I  
16 really encourage the Agency to actually start to use  
17 some metrics.

18 We're always talking about numerical  
19 metrics. You're a numerical agency, so let's not just  
20 sit around and say oh, we love public participation.  
21 It has lots of effect. Let's actually do some  
22 measurement and figure out what's going on here.

23 MR. RAKOVAN: I have someone here from  
24 the NRC Office of General Counsel that might be able

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1 to provide some information on the topic at hand.

2 MS. SPENCER: Actually, I wanted to  
3 clarify a statement made about the metrics on  
4 hearings, and how many license renewal hearings  
5 we've had.

6 MS. LAMPERT: Who is this, please?

7 MS. SPENCER: Oh, my name is Mary  
8 Spencer. I'm from the Office of General Counsel. And  
9 what Mr. Webster has not explained is that he has  
10 talked about mandatory hearings, and there are no  
11 mandatory hearings currently required for license  
12 renewal. But so, a hearing is only held if there is  
13 a request for hearing. And he's suggesting that we've  
14 only had five hearings. Well, the question I would  
15 pose to Mr. Webster is has he analyzed how many  
16 requests for hearing we have had on those, because  
17 there are a fair number of license renewal  
18 applications, in fact the vast majority of them that  
19 went through without even a request for hearing. So,  
20 you can't really say it's a black mark on the NRC to  
21 say that we didn't hold a hearing. We don't hold a  
22 hearing unless someone has requested it. And  
23 legislation to require us to hold a mandatory hearing  
24 especially for subsequent renewals is a matter that

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1 would require legislation, but I just wanted to  
2 clarify that.

3           There's another point that needs to be  
4 clarified, is on intervenor funding. Actually, we  
5 are prohibited by statute, so legislation would be  
6 required. And I'm not aware -- you know, there were  
7 some references to legislation that was put forward  
8 but that legislation would need to be made, because  
9 currently we're prohibited by law from doing that.  
10 That's something to certainly be considered in the  
11 future.

12           MS. LAMPERT: Would NRC advocate as  
13 opposed to the past discouraging. Now, we know  
14 industry is going to discourage it, but what about  
15 the NRC? And I would request documentation be  
16 provided for efforts to support and get the process  
17 going. I'm very close with Markey's office, and I'd  
18 be happy to put him in touch with whom so we can get  
19 this ball rolling.

20           MR. WEBSTER: Let me just pick up. Thanks  
21 very much for the comments from Office of General  
22 Counsel. It's very nice to have a back and forth like  
23 this. You know, if you set up a labyrinthine process,  
24 that's like a game of Chutes and Ladders, only

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1 without the ladders. It's not that surprising that  
2 most people don't want to show up to play the game.  
3 So, the fact that at a lot of relicensings people  
4 didn't show up to play the game does reflect badly  
5 on the agency.

6 MS. LAMPERT: Yes, and I'd add to that,  
7 I know I got a lot of calls from the folks up at  
8 Seabrook, won't you help me pro se that's drowning  
9 in my own litigation here. And I said well, what about  
10 you folks? In other words, we don't have the money  
11 required to hire a lawyer, to hire the experts, and  
12 we don't have staff to do it.

13 And point number two, isn't it really  
14 hopeless, because the way the rules are, they're  
15 going to be rubber stamped, so why be like the folks  
16 up in Vermont over \$200,000 in debt, or like Mary  
17 Lampert's poor husband who's had to foot the bill.

18 MR. WEBSTER: Yes. I mean, let me say that  
19 I get lots of calls from people asking me to represent  
20 them in relicensings, and I routinely decline partly  
21 because I just don't have the time. I think to do  
22 Oyster Creek took around 50 percent of my time for  
23 about four years, and partly because I think the  
24 process is just inherently rigged against us, so it's

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1 not a process that I choose to spend a lot of time  
2 doing. I do a little bit here and there where I think  
3 important issues are being raised.

4 On the second point of mandatory  
5 hearings, of course it doesn't require legislation.  
6 It's not mandated by legislation. It wouldn't  
7 perhaps be mandatory hearings, but that we could  
8 rename them desirable hearings, good idea hearings,  
9 you know, double check hearings, or something, or  
10 smart hearings. You know, why don't we call the smart  
11 hearings. We don't need legislation to have smart  
12 hearings, all we need is the Commission to decide  
13 that a second layer of check is a good idea.

14 MR. RAKOVAN: Brian, if you could hold  
15 on. Dave, you had a comment?

16 MR. LOCHBAUM: Well, it's a process  
17 question that's really on the current process that  
18 I'd also like to see extended. Brian, you talked  
19 about some things hanging on the wall. Most members  
20 of the public probably don't walk down that hall too  
21 often, so it might be worthwhile to capture some of  
22 the success stories and post it on the web, or make  
23 it available because I get a lot of calls from people  
24 saying that the process is a rubber stamp. I know

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1 that's not the case, but it -- I would prefer if you  
2 would defend that. And I could agree with what was  
3 posted, rather than have to make that argument, so  
4 I'd encourage NRC to capture those license renewal  
5 success stories and make them publicly available to  
6 the extent possible.

7 MR. HOLIAN: This is Brian Holian, for  
8 Mary Lampert and other people on the phone, just back  
9 up to the microphone, Director of License Renewal.  
10 And one, I just -- I checked with Lance, we have  
11 plenty of time for this discussion, so Mr. Webster's  
12 comment about it's good for back and forth with Mary  
13 Spencer from OGC, so I encourage that to continue as  
14 long as we want here. I encourage NRC staff. I have  
15 some technical staff here in the audience. And if  
16 things are bothering you, come up to one of the  
17 microphones and outline what's bothering you, or you  
18 just want to comment on, as time allows here. Lance  
19 will keep us in. We're here to hear from the panel  
20 though, so panel please interrupt any of us NRC  
21 staff. We're holding back a little bit, but I took  
22 some notes, and I'd like to comment, but keep the  
23 discussion going. And any members of the public, you  
24 jump up to the microphone, and we'll quickly identify

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1 you.

2 I took some notes, and I'm just  
3 overjoyed at the meeting. I mean, I look forward to  
4 this type of meeting. You know, I don't look forward  
5 to some Commission meetings. I don't look forward to  
6 some training I get. I look forward to these. I do  
7 look forward to the public meetings up around the  
8 sites. And I speak I think on behalf of the DLR staff.  
9 We're energized by comments that we get.

10 In the legal proceedings I understand,  
11 and I'm not legally trained, so Mary Spencer and  
12 others help me, but Mr. Webster, you help me with your  
13 letters on the legal comments. I recognize the  
14 difficulty of the hearing process. And I see that  
15 historically, you know, and I don't think it's just  
16 the license renewal issue. It's an Agency issue on  
17 new licenses, on any of our processes, so I'm not the  
18 best to comment on that. But other than to say that  
19 I do understand it, and I -- we clearly learned from  
20 Oyster Creek.

21 Your second comment was do you value  
22 that, and did you see a positive aspect to that? Yes,  
23 we clearly do. And I do take those opportunities to  
24 say that when I do have Commission meetings. So, on

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1 the legal side, I just had -- let me start there,  
2 Dave, and I'll come back to some of your comments,  
3 and some of each of the comments as we have time. But  
4 on the legal side, in this meeting it opened my eyes  
5 a little bit because I don't see the gates closing.  
6 Maybe that's the wrong way to say it, you know, when  
7 the license is issued. I see it as an opportune time,  
8 the relicensing, to engage on these documents, to  
9 engage on the DSEIS and the FSEIS, and I understand  
10 -- I'll come back to those comments, why don't you  
11 do it on the final?

12           You know, I personally wouldn't have an  
13 issue with that. You know, you're held to some kind  
14 of schedule, but we're not schedule driven. If  
15 there's a good concern and it comes in on the FSEIS,  
16 I would want that to be addressed vice the draft SEIS.  
17 So, personally, when I look at those legal  
18 opportunities I would hope that Ms. Lampert, Mr.  
19 Webster, that you could go after Calvert Cliffs right  
20 now, the first plant that was renewed, and go after  
21 it with some issue and open it up on a legal  
22 proceeding, whether that starts with a 2.206  
23 petition or another legal proceeding. I would hope  
24 that the public has that opportunity throughout the

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1 life of a plant. And yes, that license renewal is one  
2 clear opportunity where we provide an in depth couple  
3 of years to look at that.

4 So, I'm trying to step back, and I'm just  
5 asking does the public and Mr. Webster, and Ms.  
6 Lampert, and Mary Spencer, is that an area that we  
7 have to make it open so that Calvert Cliffs who's been  
8 renewed, they're not in the extended period yet, but  
9 if you have an issue with buried piping, they're in  
10 my mind. You know, they were done early on. Are they  
11 doing enough on buried piping? And you raise a  
12 technical issue, and you would hope to get into a  
13 legal fund, do you feel like you have that  
14 opportunity?

15 MR. WEBSTER: Well, let me take an  
16 example from the plant the best is Oyster Creek where  
17 actually after the hearing record had closed, the  
18 issue of fatigue came up and it turned out that  
19 fatigue was poorly calculated, incorrectly  
20 calculated in a way, did not meet code, we couldn't  
21 -- the Board ruled we were too late to get in a  
22 contention on that. So, the gates for getting  
23 contentions in close very, very early.

24 MR. HOLIAN: On license renewal?

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1 MR. WEBSTER: On license renewal.

2 MR. HOLIAN: But can you -- how about  
3 your opportunity to raise that --

4 MR. WEBSTER: Now, the problem is with  
5 other types of proceedings, they don't have the  
6 discovery we need. You know, 2.206, the big problem  
7 with it is, there are many problems with it, but one  
8 of the big problems is that we don't get any  
9 discovery, so we don't -- I mean, it's only when you  
10 get to see -- you know, Oyster Creek had 50,000 pages  
11 of discovery. It's only when you get to see the real  
12 underlying documents that you fully understand where  
13 the mistakes were made. And, you know, there isn't  
14 a -- you know, we can argue it would be nice if there  
15 was, but I mean, I think that's too much to ask for  
16 me. You know, I think let's start by fixing good  
17 procedures at clear trigger points.

18 If we can start with that, then maybe we  
19 can start to think about well, what can we do to  
20 improve the 2.206 process. That's entirely another  
21 discussion, I think. But, certainly, on licensing or  
22 relicensing, I think it's an opportunity to fix a lot  
23 of things that haven't been fixed over the years.

24 I mean, for instance, in safety we'll

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1 talk about generic safety issues. I personally think  
2 if you haven't closed that issue generically, you  
3 need to close it out plant by plant on licensing or  
4 relicensing.

5 So, yes, it would be great if there was  
6 a process that provided the ability to come in at any  
7 time, but there isn't. So, we have to keep these gates  
8 open earlier, longer, and licensing is a huge moment  
9 at which the licensee -- you know, the decision for  
10 licensee is do I spend a bunch of money to operate  
11 for an additional 20 years? That's when the licensee  
12 is ready to spend a little money. Once the plant has  
13 got its license, as we all know, you know, Dave's  
14 example of them backing away from the fatigue  
15 probably is a good example. Once they got the  
16 license, all they did was back away and spend as  
17 little money as possible.

18 MS. LAMPERT: Yes, and I'd add an example  
19 from Pilgrim on non-environmentally qualified  
20 buried electric cables. Tried to bring it forward in  
21 Pilgrim and got caught in the reopening standard  
22 game, which would be another issue I think for  
23 process that should be discussed, that the standards  
24 set for reopening as applied are too high a burden

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1 on litigants, and unfairly limit our participation  
2 on safety matters.

3 Chairman Jaczko on CLI 12-06 recognized  
4 this, particularly in regard to any issues related  
5 to lessons learned from Fukushima, that when  
6 information is developing and, for example, at  
7 Fukushima certainly, the key of loss of offsite power  
8 is one that you can't expect petitioners to meet the  
9 standards for reopening which requires, in essence,  
10 proving that you'd win in summary disposition,  
11 proving your case. In other words, breaking the  
12 wallet to -- when you don't even know whether you're  
13 going to get in. So, important issues such as  
14 non-environmentally qualified buried electric  
15 cables, which is certainly key if your reactor is  
16 adjacent to Cape Cod Bay. But, anyway, yes, there are  
17 other ways to try to skin a cat, such as the 2.206  
18 I've already filed. And a petition for rule change  
19 I hope will be filed soon.

20 But, again, unless you've had the  
21 opportunity for discovery during the license renewal  
22 process, you don't have as strong a case to win in  
23 those other avenues.

24 MR. HOLIAN: Yes. Brian Holian, Ms.

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1 Lampert. And I do appreciate that, and I appreciate  
2 your commenting on the petition for rulemaking. I  
3 look at that. I think those are valuable at least from  
4 an Agency perspective. I like seeing those. This  
5 meeting right here, I hope it fosters some petitions  
6 for rulemaking on license renewal subsequent -- I  
7 mean, in my own mind, at least ideas and share with  
8 the staff. I know it's still a burdensome process,  
9 but that's the point of this meeting, is to garner  
10 those ideas.

11 MS. LAMPERT: I would also be encouraged  
12 by seeing some response on anything brought forward  
13 to the NRC.

14 MR. RAKOVAN: Mr. Lochbaum, go ahead.

15 MR. LOCHBAUM: I was just going to  
16 follow-up on Brian's point. I mentioned earlier that  
17 we chose not to help people in license renewal  
18 proceedings. Many of the issues that we would have  
19 otherwise entertained we did pursue in other forums,  
20 so that does speak to your point of it's not the only  
21 game in town, and there's other things. But I think  
22 to Richard's point, is that the license renewal  
23 process should be made equitable with those other  
24 processes. Instead of all these what we think are

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1 undue burdensome administrative barriers to public  
2 participation, we choose more amendable outlets to  
3 try to raise the same safety issues.

4 In some cases, the 2.206 process is  
5 knocked off the table because if you've had a  
6 previous chance to raise something like a license  
7 renewal process, you're out of the gate on the 2.206  
8 right at the start, so we have to go after a site that  
9 hasn't yet been relicensed if we're going to pursue  
10 an issue through 2.206.

11 I guess to be fair, we've pointed out  
12 some of the criticisms with the second license  
13 renewal. One of the benefits, one of the biggest  
14 benefits from the second license renewal is that it  
15 gives the Agency and the licensees more time to come  
16 into compliance with things like fire protection  
17 regulations, where three decades hasn't been enough  
18 time. So, maybe 20, or maybe even 100 years would  
19 really allow the plants to come into compliance with  
20 fire protection. And that's been under-realized so  
21 far, so we see that as a benefit of sorts.

22 MR. RAKOVAN: Mr. Young, did you have a  
23 comment that you wanted to make before we get to Mr.  
24 Riccio?

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1 MR. YOUNG: I wanted to clarify  
2 something. There's been two references made to the  
3 Vermont Yankee cycle count and FatiguePro. And I just  
4 want to point out that the actual events that  
5 occurred there at Vermont Yankee were that they did  
6 go from FatiguePro to manual cycle counting which is  
7 a more conservative approach to managing fatigue.  
8 So, it went in the safer direction, so that explains  
9 why the change was made, because it was easy to  
10 justify it on the basis that it was a safer form of  
11 operation in management of aging. So, that's -- it  
12 was not a reduction.

13 MR. RAKOVAN: Mr. Riccio. Jim, if you can  
14 introduce yourself, please.

15 MR. RICCIO: Certainly. My name is Jim  
16 Riccio. I'm with Greenpeace. I was tempted this  
17 morning to print out the original license renewal  
18 rule and bring it as a comment on process. You had  
19 a good process. When it failed to license the  
20 reactors you wanted, you gutted it. And what we have  
21 now is Part 54.

22 I find it very interesting that Chris  
23 Grimes who was the -- had your job is now writing  
24 briefs on our side of the fence saying what your rule

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1 solicits or elicits is inadequate to prove that  
2 reactors should run another 20 years, let alone 40.

3 I can't believe we're talking about  
4 running reactors another -- you haven't reached 40  
5 years yet in most reactors. You're leaking tritium  
6 into ground water. You have -- you've collapsed  
7 cooling towers, and you're about to relicense  
8 Davis-Besse which of all the reactors in this country  
9 prove that you do not have an adequate handle on  
10 aging.

11 You know, when you have a football size  
12 hole in the vessel head of a nuclear reactor, and  
13 you're going to turn around and say that FirstEnergy  
14 has a process that will manage aging, you lose public  
15 confidence left, right, and center. You want a  
16 legitimate process, you know, Richard has given you  
17 some statistics on how many people have actually  
18 participated in your processes. It is a rubber stamp.  
19 Every single reactor that's requested a license  
20 renewal has received one since you've gutted the  
21 original rule.

22 I think you should be speaking here  
23 today about how you can adequately regulate these  
24 reactors and bring these reactors to shutdown,

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1 rather than continue to operate them into the future  
2 forever.

3 I won't even get into the safety issues.  
4 I guess we have the whole afternoon for that. But in  
5 terms of the process, the Environmental Protection  
6 Agency I believe has what are known as citizens super  
7 meetings. I'm sure the NRC would just copy and paste,  
8 which they seem to do pretty well with the license  
9 renewal applications. So, there are adequate ways  
10 both with legislation and without to improve this  
11 process, and there has to be a willingness on the part  
12 of the Agency to do so.

13 I've been to a lot of the dog and pony  
14 shows, especially at Calvert Cliffs on relicensing.  
15 You talk past your public. The public asks have you  
16 considered alternatives by which they mean  
17 alternatives to a nuclear plant or a coal plant. The  
18 Agency's response is yes, we considered a coal plant.  
19 But it sounds to the public like you considered wind,  
20 solar, efficiency and you haven't.

21 You know, we can go on for quite some  
22 time. You could go down every one of the reactors  
23 you've already relicensed and pick out instances  
24 even from your -- we call them near misses, you guys

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1 call them precursors. You have time and time again  
2 instances in those precursor reports where aging  
3 degradation has led to safety significant issues at  
4 reactors. And you use that to backfit what you're  
5 doing in terms of renewal.

6 I agree with just about everything  
7 that's been said. I feel sorry for the amount of  
8 pressure that the public has placed upon folks like  
9 David and Richard, but that can be alleviated if this  
10 Agency actually wants public participation, which I  
11 don't believe it does because to my mind, this Agency  
12 is captured, which is why we're here today.

13 MR. WEBSTER: Can I just follow-up on one  
14 point that Jim said, which is fee shifting. I mean,  
15 I think although there are some state precedents for  
16 actual funding, I think fee shifting would be  
17 tremendously helpful in these proceedings. One of  
18 the reasons that it's very hard for us to get involved  
19 is that -- my firm, Public Justice, would primarily  
20 fund or partly funded by when we win we get the other  
21 side to pay our fees. That happens under the Clean  
22 Water Act, happens under RCRA, it happens on the NEPA  
23 litigations through the Equal Access to Justice Act,  
24 which some of you may well be working to repeal at

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1 the moment. But it currently does happen, and so  
2 there's plenty of precedent for public interest  
3 lawyers to get paid when they win.

4 At the moment because of the way the  
5 process is set up, as I say, we can't win. Although,  
6 actually New York State actually has won a couple of  
7 contentions already, so that was the first time ever.  
8 I think that's going to be the -- they're going to  
9 be on the 87<sup>th</sup> relicensing and somebody won one  
10 contention. But we could win if the application was  
11 frozen and the applicant was forced to settle with  
12 us when actually we had a good point. And we know we  
13 can win, and if we got paid when we win, then we'd  
14 be able to do a lot more of these proceedings. And  
15 we would find mistakes. We would find a lot of  
16 mistakes. And if you don't think that's true, then  
17 please let's open it up and let's find out.

18 MR. HOLIAN: That was one of the comments  
19 -- thank you, Mr. Webster. Brian Holian again for  
20 those on the phone. And one of the comments on your  
21 slide was that the NRC is not perfect, and we agree  
22 with you. So, there's clearly a point of agreement.  
23 And, you know, you can ask some of our staff whether  
24 Melanie and I think they're perfect, and they'll come

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1 back clearly not, and we know we're not. We know we're  
2 not perfect. You know, Mr. Riccio, setting up the  
3 first rule, you know, I'm glad you brought that up.  
4 You know, I've asked staff -- I don't know what  
5 percentage of our staff were around when that first  
6 rule was written, you know, that are in the license  
7 renewal. Not many, and yet, I've told them go back  
8 and study that rule. I've read it, and did they have  
9 problems with it? Was it tougher, was it -- you know,  
10 coming up with something, the definition there was  
11 unique to license renewal. You know, it had some  
12 definitions terms that -- so it was -- as I look back  
13 at the history, I think it's worth bringing that back  
14 up, you know. Was it -- were there good parts of that  
15 that we should revisit?

16 I just want to mention, and I'm glad you  
17 jumped back to the mic. You know, it ties into what  
18 Mr. Lochbaum raised earlier on the difference  
19 between plants. You know, relicensed just a year and  
20 a half apart, and one of them doesn't have Alloy 600,  
21 one does. That bothers me, and I've told Mr. Lochbaum  
22 it bothers me. I sicced the region after those  
23 plants. I do have on my to do list can I go backfit  
24 that on the plant through my normal processes? That's

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1 a tough hurdle.

2 I want to read you a license condition  
3 in for the record that this was at a public meeting  
4 a year and a half ago. And this, Stacie and Bennett  
5 are looking at words like this, you know, "Upon  
6 entering the period of extended operation, at  
7 periods not to exceed five years, licensee shall  
8 evaluate programs, activities, time-limited aging  
9 analysis for the effects of aging. These evaluations  
10 shall take into account industry-wide and  
11 site-specific operating experience. Adjustments  
12 shall be made where necessary to ensure that programs  
13 are updated to appropriately manage aging and to  
14 ensure that activities authorized by the renewed  
15 license will continue to be conducted in accordance  
16 with the current licensing basis."

17 It would pull the plant back to about the  
18 time frame right now where we update our Generic  
19 Aging Lessons Learned program to what we've learned  
20 over the reviews to make sure we apply them to  
21 previous plants. So, the staff is wrestling how can  
22 I put this in a condition? I can put in a condition  
23 on plants right now. I can clearly put it in  
24 expectations when they come in for license

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1 amendment, that they just commit to this. So, I had  
2 -- sometimes I think folks will think do I need to  
3 bring those topics up? And we're here today to hear  
4 from you, but Melanie and I are expecting our staff  
5 to come up with these kind of ideas, what have we  
6 learned, what have the Regions learned to help the  
7 Region do their job.

8           You know, when I say point the Region  
9 after it, the Region can go through and hopefully  
10 find that Alloy 600 plant, and they're looking. We  
11 tell them look, is there any operating experience  
12 that that previous plant has, and have they not put  
13 it in their Corrective Action Program, and have they  
14 not looked to apply the operating experience? And  
15 they can do a finding, and hopefully work with  
16 reinforcement. It is a little more onerous, so I'd  
17 like to make it easier where to put that burden on  
18 the licensee. You'll do the reviews. So, even the NRC  
19 has different ways of going at some of those things,  
20 but we're here to make them better.

21           MS. LAMPERT: Could you read that again,  
22 because what I heard had an awful lot of wiggle room,  
23 holes and --

24           MR. HOLIAN: Yes, I will read it or give

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1 it to you. I'll give you the reference to a public  
2 meeting where I used that with the industry, Ms.  
3 Lampert. But I -- Jim Riccio is up at the mic, so  
4 maybe we can --

5 MS. LAMPERT: Oh, okay.

6 MR. HOLIAN: Okay.

7 MR. RAKOVAN: Yes, let's go to Mr.  
8 Riccio, and then I want to go back to Dave Lochbaum  
9 who's waiting patiently.

10 MR. RICCIO: From the public's  
11 perspective, the problem, or it wasn't a problem, the  
12 reason the original rule fell afoul of the Agency and  
13 the industry is because it actually required that  
14 plants prove that it meet their licensing basis. And  
15 from what we know from the Millstone debacle in the  
16 '90s, we shut down every single reactor in the State  
17 of Connecticut because they couldn't prove that they  
18 met their licensing basis, and only two of the four  
19 ever came back. The plants don't.

20 You know, there are memos from the '80s  
21 talking about how much it would cost to prove that  
22 plants met their licensing basis, and it was thought  
23 to be prohibitive. So, again, the reason I thought  
24 to print out that original rule and bring it here is

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1 that -- it's part of Dave's side joke that perhaps  
2 eventually you'll actually meet the terms of your  
3 licenses. How many generic safety issues have you  
4 -- are still on the books for reactors that are now  
5 reaching 40 years old?

6 And Dave's comment about perhaps if we  
7 give them another 20 years you'll actually be able  
8 to get those off the books speaks volumes. And it just  
9 seems to me that if you actually want participation,  
10 you have avenues to do it. You have it. You tried to  
11 remove the public from the process, and I'll leave  
12 it at that.

13 MR. RAKOVAN: Mr. Lochbaum.

14 MR. LOCHBAUM: Just my final comment on  
15 intervenor funding. Even if intervenor funding was  
16 available through the NRC, we wouldn't participate,  
17 we wouldn't get it.

18 I was appointed by the Vermont State  
19 Legislator to an Oversight Panel for Vermont Yankee  
20 a few years ago, and the other four panelists were  
21 getting \$300 an hour for their time, and we didn't  
22 -- that cost UCS about \$15,000, which I had to  
23 explain after the fact. But we don't -- if we agree  
24 to help anybody out we don't charge time, travel, or

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1 anything like that because our organization works on  
2 safety issues. If that issues the best chance for us  
3 to put that safety issue, or we'll use our money to  
4 make that happen. So, whether there was intervenor  
5 funding or not -- but that doesn't change the dynamic  
6 for others. UCS is funded. We have a base, a  
7 foundational -- I'm a full-time professional, but a  
8 lot of the people I work with are citizens who are  
9 -- you know, bake sales and other things to try to  
10 raise money. So, the intervenor funding wouldn't  
11 change whether we did or didn't participate in the  
12 process. So, the process issue has to be fixed for  
13 us to determine that that's the best use of our  
14 resources. The intervenor funding wouldn't change  
15 that part of the dynamic for us.

16 MS. LAMPERT: Let me add from a pro se  
17 point of view, Pilgrim Watch had a bank balance of  
18 zero, so -- and it still is zero. So, therefore,  
19 either to play I had to use my own personal money.  
20 And the experts have to eat, and they may give you  
21 a public interest hourly rate of 300 bucks, but it  
22 takes a lot of time for them to review documents,  
23 review answers, the travel time, et cetera.

24 As a result you cannot fairly play.

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1 There were many, many experts I wanted and talked to,  
2 but when we got down to money I simply couldn't afford  
3 it. And, therefore, I actually felt sorry for the  
4 Atomic Safety Licensing Board at the hearings  
5 because it was obviously so lopsided where I could  
6 come up with a couple of experts, and I had to put  
7 them on a very short hourly leash saying, you know,  
8 at X dollars stop working, where the other side had  
9 multiple teams, NRC and the industry. So, how could  
10 they really feel that the decision they were making  
11 was based upon a fair presentation of facts? It  
12 wasn't, and it can't be unless the funding is  
13 provided for witnesses, at the least.

14 MR. RAKOVAN: Mr. Webster.

15 MR. WEBSTER: Well, I just want to  
16 comment -- I think I'm going to reserve my discussion  
17 of CLB issues for the safety area, so I think I will  
18 try to comment -- it seems to bleed over to another  
19 area so I don't know exactly if we want to get into  
20 that now, or you want to save that.

21 MR. HOLIAN: I think that's appropriate.  
22 I think the safety and the environmental, we'll  
23 rehash some of these items, which is good. That's  
24 how it was set up. And I don't know if other people

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1 will participate or are coming to participate just  
2 in those sessions. I think we have a couple other  
3 panel members, so near the end of the day we can -- if  
4 we didn't cover it in depth we can go back to it. This  
5 is Brian Holian again for those on the phone.

6 Mr. Lochbaum, you also mentioned would  
7 you share pictures like these that I -- the one  
8 picture I sent around. And I did mention I use those  
9 -- license renewal staff collects those for us, and  
10 we did use them at a Commission meeting. And it was  
11 one of Commissioner Apostolakis' -- he was probably  
12 only in office three or four months, and he sat back  
13 and he looked at those pictures. And when it came  
14 around for questioning at the end it was not only  
15 license renewal, it was materials type issues, you  
16 know. So, the Davis-Besse prior to license renewal,  
17 issues come up and how are you dealing with alloy  
18 issues. So, it was a panel with Research and NRR  
19 technical, and then License Renewal was there. It had  
20 a focus to that.

21 And we did -- you know, I purposely  
22 wanted to use these types of issues, containment  
23 liner cracks, corrosion to show and to give it some  
24 visibility, Mr. Lochbaum. So, we do try to use that.

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1 We are using spectrum reports. I know those are  
2 available to you. I think we've even tried putting  
3 some of these pictures in our RISs and things like  
4 that. A picture is worth a thousand words. We realize  
5 that. And Commissioner Apostolakis said, you know,  
6 best meeting I've attended since I've been at the  
7 Agency. I think he liked seeing, one, the openness  
8 of issues that we're wrestling with.

9 And I mentioned earlier, Mr. Riccio, I  
10 don't know if you were in there, that it's those type  
11 of issues that we do gauge the effectiveness of our  
12 license renewal. I am not sure how well it's working  
13 with only 10 plants in 10 years into the extended  
14 period, so we're here to clearly learn from that, and  
15 maybe pattern the new rule, or new guidance at least  
16 for a subsequent time frame.

17 It is refreshing hopefully to the public  
18 that a plant has not come in now even though legally  
19 they're allowed to come in. I find it refreshing.  
20 We've been a damper to that. Hey, if you come in, you  
21 know, don't be thinking you'll be on anything other  
22 than a schedule at all, you know. Maybe we'll get to  
23 you in five years or so. There's a lot of questions  
24 we have. You know, we do have -- we'd like to do some

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1 confirmatory Research of what EPRI or DOE -- and I  
2 think they're on panels later today. So, hopefully,  
3 we'll get to more kind of licensing basis, and bring  
4 even some of these process questions back during the  
5 safety discussions.

6 MS. GALLOWAY: Yes, I think this has been  
7 a very good discussion on the hearing process, and  
8 the roles of intervenors, and the difficulties that  
9 intervenors have to participate. I think for those  
10 of us at the NRC that focus on technical issues, and  
11 reviewing what applicants provide to us, you've  
12 offered us perspectives that we don't often think  
13 about.

14 I think OGC probably does more than we  
15 do, so we appreciate that. But I was wondering, too,  
16 if there were any other process issues which we might  
17 take the opportunity to explore in a little bit more  
18 depth. For instance, one issue which the Agency has  
19 been addressing recently, or at least looked at in  
20 some respect through a petition for rulemaking is the  
21 area of the 20-year period by which an application  
22 is allowed to come in. And we certainly thought there  
23 would be a lot more discussion on that. And I guess  
24 I want to invite that discussion to occur now.

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1           There's been some reference to it, but  
2           certainly we want to understand the perspective of  
3           all of our stakeholders as to the pros and cons of  
4           that time period based on the history which we've had  
5           so far. So, if there is anybody that wants to comment  
6           on that, or any other process issue we would  
7           certainly be interested in hearing about it.

8           MS. LAMPERT: Yes, one more process issue  
9           and Seabrook has brought it to mind. The ability to  
10          apply when you're halfway through whatever the  
11          original license is. There's no way in hell at 20  
12          years, and then if we project to what you're planning  
13          that you can, for example, deal with environmental  
14          issues. There is certainly going to be so many  
15          changes as a result of climate change. There are so  
16          many technological changes. There is a lack of  
17          understanding of the degradation that occurs. It's  
18          a total -- what to do, I was going to get into under  
19          the environmental, to do an alternatives analysis.

20          This is absurd, totally absurd. So,  
21          therefore, what time frame are you thinking of where  
22          an applicant can apply?

23          MR. WEBSTER: All right. Let me pick up  
24          on that from Pixie. I think for subsequent renewal,

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1 I think we should start off with a default that it's  
2 not possible. We should start off with the default  
3 that it can't be done. So, we should say we're not  
4 accepting any applications for subsequent renewal.

5 At some point, if applicants are able to  
6 show it is possible, then we can start talking about  
7 what time frame is appropriate. I think, you know,  
8 Oyster Creek applied three years before their  
9 license renewal. They got the license one week before  
10 their license expired. So, maybe three years is a  
11 little tight. Five years seems -- five years is in  
12 the current rule, kind of you get the benefit of  
13 timely --- if you make a timely and sufficient  
14 application, you get the benefit of administrative  
15 renewal. That seems reasonable if there is some proof  
16 that a subsequent renewal is possible. So, I think  
17 somewhere between 10 and 5 if the question comes up,  
18 but the question is really -- I think we're  
19 prematurely asking a detail question, when we have  
20 a big picture question to answer.

21 MR. RAKOVAN: While we have a quick pause  
22 since we have been going to the people here in the  
23 audience, Julie, can you go ahead and take a moment  
24 to see if we have any people on the phone lines who

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1 would like to make some comments?

2 OPERATOR: Thank you. If you would like  
3 to ask a question please press \*1. Once again, please  
4 record your name.

5 MR. RAKOVAN: We'll just give our  
6 operator on the line a chance to get people into a  
7 queue, so we'll just pause for a moment.

8 OPERATOR: I am showing no questions or  
9 comments.

10 MR. RAKOVAN: Okay. Thank you, Julie. Do  
11 we have any further discussion on the issues here?  
12 Anybody want to build off of some comments that have  
13 been made? Melanie asked a specific question. I know  
14 there's been a lot of discussion about public  
15 participation. Stacie, do you have a question you'd  
16 like to ask?

17 MS. SAKAI: Yes, I did have a question for  
18 Mr. Young. You did mention NEI 95-10, and NEI's plans  
19 to revise the document. Is that correct?

20 MR. YOUNG: That's one of the things  
21 that's being looked at as part of this collaborative  
22 effort with EPRI.

23 MR. RAKOVAN: Sir, can you try to use your  
24 microphone just a little more, please. Thank you.

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1 MR. YOUNG: The NEI 95-10 document is one  
2 of the documents that's been tabulated as part of  
3 this overall process of looking at the guidance and  
4 what issues, what new pieces of information should  
5 be incorporated. There's no specific schedule or  
6 plan yet, but we're on Rev. 6 at this point, and as  
7 needed we certainly will be working on Rev. 7.

8 MS. SAKAI: Okay. We had heard  
9 differently at previous quarterly meetings, that's  
10 why I wanted to clarify that.

11 MR. YOUNG: Yes, we don't have anything  
12 specific at this point, but through these efforts  
13 that are underway if we identify something that would  
14 be appropriate to make those changes, then we  
15 certainly will.

16 MS. SAKAI: Okay, thank you. Turn it back  
17 to you, Lance, if there's any other questions,  
18 comments in the room.

19 MR. RAKOVAN: Okay. Hold on a second.  
20 Melanie, please.

21 MS. GALLOWAY: I was wondering, Garry, if  
22 you wanted to respond to the 20-year question as to  
23 what the industry's thoughts are on the  
24 appropriateness of a 20-year lead time for license

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1 renewal applications.

2 MR. YOUNG: Well, the 20-year term is  
3 well documented in the Statement of Considerations  
4 as far as the industry position. The industry needs  
5 at least 10 years for long range planning to replace  
6 a plant that will not continue to operate. So, given  
7 that information, then it makes sense for the  
8 applications to come in in a period well before the  
9 last 10 years. So, the 20-year goal was picked  
10 because after 20 years of operation you have plenty  
11 of information on aging management activities and on  
12 the success of your existing aging management  
13 programs.

14 For the second renewal or subsequent  
15 renewal you will have at least forty years of  
16 operating experience on your aging management  
17 programs and activities, so it makes sense, and it's  
18 well documented in the Statement of Consideration  
19 for the 95 rule that the 20-year -- the time frame  
20 between the last 20 years and the submitting prior  
21 to the last five years is the right window. And that  
22 gives us some room to submit the applications such  
23 that they don't all come in at one time, or in a large  
24 bunch.

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1 MS. GALLOWAY: Okay. This is Melanie  
2 Galloway again. So, Garry, I just want to be sure that  
3 I'm understanding. So, what industry's position is  
4 is that nothing has changed in terms of the planning  
5 timeline that an industry applicant would need since  
6 the Statement of Consideration, so the industry's  
7 view is that that is still current as of today.

8 MR. YOUNG: Yes, I'm not aware of any  
9 changes in the amount of lead time it takes to build  
10 a replacement power plant. In fact, it's probably  
11 gotten longer.

12 MS. LAMPERT: May I make a comment?

13 MR. RAKOVAN: Please go ahead.

14 MS. LAMPERT: There's the good  
15 old-fashioned bathtub curve, and in the beginning  
16 when a component whether it's a household appliance  
17 or a nuclear reactor, or your car, things if they're  
18 going to go wrong will go wrong in the beginning. Then  
19 you get a pretty smooth ride through the middle, like  
20 up to 20 years. Then at the end you start having  
21 troubles with degradation, et cetera. So, his  
22 comment and thinking sort of avoids that last part.

23 And I've read a report by Union of  
24 Concerned Scientists on this. Dave, do you want to

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1 chime in? On this whole concept that where Seabrook  
2 is now, for example, or up to 20 years as he was  
3 talking about. You're really in the cruising period  
4 where things have smoothed out, so you don't have the  
5 lessons learned that you would expect to find later  
6 on in the process. Not to mention changes in the  
7 greater environment. What do you say, Dave?

8 MR. LOCHBAUM: Well, I think the answer  
9 would be different if Seabrook were at the front of  
10 the line where it came in very early before any plants  
11 had a chance to rely on where they were in the bathtub  
12 curves. I think the fact that Seabrook came in  
13 towards the end of the line where the NRC had seen  
14 lessons learned from other plants similar to  
15 Seabrook, perhaps not similar to Seabrook, revised  
16 its guidance a couple of times, makes the answer for  
17 Seabrook at its time different. We're not as  
18 concerned that it came in so early.

19 Again, if it had been the first one to  
20 come in, or if a plant goes for a second relicensing  
21 way early I think the context that it is in also  
22 determines whether it's appropriate or not, so I  
23 think that's the best way I have to answer that  
24 question, or that issue.

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1 MR. WEBSTER: Can I speak on a couple of  
2 points? I mean, one is I find it kind of interesting  
3 that the industry position is well set out in the  
4 Statement of Consideration. You know, I thought that  
5 was the Commission's position, actually. Good to see  
6 somebody got my joke, anyway. It's a tough crowd  
7 today.

8 MR. YOUNG: The Statement of  
9 Consideration is a summary of all the inputs that  
10 were received.

11 MR. WEBSTER: You're right, and the  
12 Commission has taken those, yes. Second is, as far  
13 as I'm aware in most markets the operators of  
14 merchant plants are not required to replace the  
15 power, so I'm not quite sure why that's a  
16 consideration in those markets.

17 MR. YOUNG: Well, it depends on which  
18 market you're in. It's true in the merchant market  
19 there's no requirement certainly to replace the  
20 power. It's up to the states to ensure that they have  
21 adequate supplies. No, we operate primarily in the  
22 regulated market where we are responsible.

23 MR. WEBSTER: Interesting. In terms of  
24 Entergy's fleet how much has been regulated versus

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1 non-regulated?

2 MR. YOUNG: We have six plants in the  
3 regulated and five in non-regulated.

4 MR. WEBSTER: Okay. So, I mean, would you  
5 be interested in bifurcation, shorter --

6 MR. YOUNG: Well, again, our business is  
7 to operate the power plants. If we have one that's  
8 going to shut down, then we will be looking at options  
9 to replace that power whether it's in a merchant  
10 market or in a regulated market.

11 MR. WEBSTER: Right. But I mean the  
12 question is, is it a relevant -- is the requirement  
13 to replace power a relevant consideration for the  
14 time frame for application? I suggest to you that in  
15 an unregulated market it's not a responsibility of  
16 the licensee to look at those issues.

17 MR. YOUNG: No.

18 MR. WEBSTER: So, therefore, it's not a  
19 relevant consideration.

20 MR. YOUNG: It is relevant from a  
21 business viewpoint.

22 MR. WEBSTER: Oh, if you're talking on  
23 business viewpoint, let's get them relicensed as  
24 early as possible. I totally understand that.

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1                   Finally, I think on this issue of time,  
2                   I think the other point to make is that it's hard to  
3                   consider alternatives effectively 20 years ahead.  
4                   Seabrook has an interesting contention about wind  
5                   power and the availability of offshore wind power.  
6                   It's hard not to be speculative about the price of  
7                   offshore wind power in 20 years time. So, you end up  
8                   with this Catch-22, is that oh, well, your contention  
9                   is too speculative because you're speculating about  
10                  the availability of wind power in 20 years time, but  
11                  the Agency itself is forced to speculate about that  
12                  in its FSEIS. So, I think that it really -- 20 years  
13                  is far too early -- I mean, I'm talking about current  
14                  -- you know, let's not forget subsequent renewal.  
15                  I'm talking about current renewal, 20 years is far  
16                  too early to start applying. I think also in AMPs a  
17                  lot of lessons are actually learned later on in the  
18                  process.

19                         When I think of Oyster Creek again, they  
20                         only started identifying corrosion in the drywell  
21                         there around 25 years into operation, and the  
22                         corrosion was only found to be ongoing about a year  
23                         before the license expiration. So, to deny yourself  
24                         -- at least I could see a process where you're

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1 issuing kind of a provisional license and then  
2 revisit depending on operating experience in the  
3 period prior to the extended operation. But to issue  
4 a final license that early doesn't seem to me to make  
5 sense.

6 MR. YOUNG: I'd like to make one quick  
7 comment on that.

8 MR. RAKOVAN: Go ahead.

9 MR. YOUNG: The license decision is  
10 provisional. All operating licenses are  
11 provisional. We have to meet all the terms of the  
12 license and maintain all of the safety systems in  
13 operation, so every license that's issued, the  
14 current license and the license renewal are  
15 provisional.

16 MR. WEBSTER: Oh, so you're saying if the  
17 NRC changed the terms of the license prior to the  
18 period of extended operation you wouldn't say it  
19 needed backfit justification?

20 MR. YOUNG: No, I'm saying that the terms  
21 of the license require continued safe plant  
22 operation, so if there are any issues that come up  
23 during the license that would challenge that  
24 conclusion then they have to be dealt with.

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1 MR. WEBSTER: No. But what I'm saying,  
2 they're not provisional in the sense that the NRC  
3 doesn't retain the ability to change the license  
4 without doing a backfit.

5 MR. YOUNG: They do have that ability,  
6 though, through their regulations. Sometimes  
7 backfit is applied, sometimes it's not.

8 MR. WEBSTER: So, for instance, in this  
9 Alloy issue, you're saying NRC could require an aging  
10 management program for that 600 --

11 MR. YOUNG: The Alloy 600 program is  
12 already in place at all the plants that have Alloy  
13 600. License renewal was not the driver for the Alloy  
14 600 program. It was operating experience and ongoing  
15 inspection activities, so it's not correct to say  
16 that the Alloy 600 program was only required for  
17 license renewal.

18 MR. WEBSTER: So, let's take another  
19 program, let's say there's another program that was  
20 instituted -- that was issued at one plant but not  
21 at another plant, you're saying NRC could alter that  
22 at the first plant without any backfit  
23 justification?

24 MR. YOUNG: I'm not going to get into

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1 explaining the NRC regulations, but I will say that  
2 any operating experience at any plant that shows an  
3 issue with safe continued operation, including aging  
4 management, will be reviewed and evaluated through  
5 the operating experience program and applied to all  
6 plants that it's applicable to. So, as far as NRC  
7 requiring it, I'll let the NRC answer that question.  
8 But as far as the industry, an example being Alloy  
9 600, all plants that have Alloy 600 have an Alloy 600  
10 inspection program whether they're going through  
11 license renewal or not.

12 MR. HOLIAN: This is Brian Holian. Is  
13 this mic still working? Hopefully, it's picking up  
14 --

15 MR. RAKOVAN: It is.

16 MR. HOLIAN: Okay. A different  
17 microphone, I came to a different microphone so you  
18 could envision me as a member of the public. So, Ms.  
19 Lampert, I'm not at the front of the room now, I'm  
20 in the middle of the room because I wanted to ask  
21 -- let me go back to Alloy 600.

22 Well, on Alloy 600 maybe we'll pick it  
23 up again during the safety aspects and a staff member  
24 here can talk more about that issue. It is a good -- I

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1 see both sides of that point. You know, I already  
2 mentioned it earlier that I'm bothered by that. I'm  
3 bothered, and my Regional Inspectors -- I'm bothered  
4 only that I want to make sure that the other plants  
5 where I don't have a license commitment on it, I want  
6 to make sure they're following what the later plant  
7 is doing.

8 So, my easiest way is to go to my  
9 inspector buddies in the regions and make sure they  
10 look at it, they definitely look at it prior to going  
11 into the extended period, for even a plant that  
12 doesn't have it, a commitment, we'll tell them here's  
13 a list of things to look at. So, you're right, under  
14 Part 50 the good part about license renewal is we're  
15 going side by side through the reviews, so license  
16 renewal, although it's a Division in NRR, and we have  
17 our technical staff, we work side by side with  
18 technical staff in the normal NRR Divisions. So,  
19 there is some overlap on Alloy 600. Maybe we'll  
20 touch on that in the safety side, so it's worth  
21 exploring, because I want to make it clear to the  
22 public, and I want to make sure, also, that it's clear  
23 to the licensees that you're not getting a buy on  
24 different plants because of the conditions or

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1 commitments in your license. So, more on that. I can  
2 go more on that.

3 I want to touch from this microphone,  
4 Mr. Young mentioned earlier about having 40 years of  
5 aging management experience for even these plants  
6 that may or may not come in for a second license  
7 renewal. And I'll be questioning that, whether they  
8 have 40 years of operating experience, but do they  
9 have 40 years of aging management experience? I  
10 question that, so I'll want more on the industry  
11 viewpoint of that as you come into the safety side,  
12 because I -- in the time I've been in the Region, and  
13 then in the time I've been in license renewal on aging  
14 mindset, and I might even want Dr. Hiser, who is our  
15 Senior Level Advisor, to touch on this during the  
16 safety side. He has great words of saying this, the  
17 aging mindset is a different mindset than the  
18 operating mindset. To get through a refueling  
19 outage, and you have a little bit of water leaking,  
20 the operating mindset says no big thing. Fifteen  
21 years later when you figure out where that water has  
22 been leaking to, and what kind of aging aspects  
23 that's been doing, it didn't dawn on many of the  
24 utilities in the first 20 years for an aging mindset,

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1 so we can pick that up in the safety viewpoint. I just  
2 --

3 MR. YOUNG: I totally disagree with you.

4 MR. HOLIAN: Yes, I -- I don't like the  
5 word "totally," but --

6 MR. YOUNG: It's relevant because we've  
7 been doing aging management since the day the plant  
8 started. Aging didn't wait for license renewal to  
9 start.

10 MR. HOLIAN: I know, and there is --

11 MR. YOUNG: We've been managing it that  
12 whole time.

13 MR. HOLIAN: There is some overlap.

14 MR. YOUNG: And that's the basis for the  
15 license renewal rule is taking credit for the  
16 existing programs.

17 MS. LAMPERT: I'd like to chime in on  
18 that. You know, all this aging and corrosion, and  
19 what I look at, you have experience looking  
20 backwards. You don't have any experience looking  
21 forward. Reactors haven't operated for 60 years. I  
22 think that's a point to consider.

23 MR. YOUNG: Mary, I think that -- I mean,  
24 that is true, but the materials and the environments,

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1 and the aging effects are applicable to other plants  
2 and large facilities. We have fossil plants that have  
3 operated for more than 60 years, hydro plants that  
4 have operated for more than 100 years.

5 MS. LAMPERT: And they don't have  
6 radiation.

7 MR. YOUNG: No, but radiation is being  
8 tested through our Research and Development at  
9 accelerated rates to predict, and to be proactive in  
10 identifying effects that may be showing up later. In  
11 fact, that's part of our inspection program is to  
12 look for those things --

13 MS. LAMPERT: I guess lessons learned  
14 from Fukushima, a hubristic attitude is very  
15 detrimental to safety.

16 MR. YOUNG: We have a questioning  
17 attitude.

18 MS. LAMPERT: You do not have the data  
19 looking forward.

20 MR. HOLIAN: And, Lance, maybe we can  
21 keep this to the safety portion. Hopefully, Ms.  
22 Lampert, you'll still be here for that portion, so  
23 if we have time, Lance, if people aren't going to be  
24 here, maybe we can open it up. I have one other

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1 process thing and I'm going to leave this mic, and  
2 other people might come up.

3 I was also expecting process -- Melanie  
4 tried to get this when should you apply, which I think  
5 is a good question for rulemaking so I appreciate  
6 bringing that up again, and good questions about  
7 replacement power. The Staff still has those  
8 questions, so whether those assumptions will still  
9 matter, so we can look at that. Mr. Webster, your  
10 comment about when it comes in, you're right, the  
11 staff -- you know, do we accept it, do we deny it,  
12 do we say we have enough to start the review and put  
13 it on a different schedule? I'm right with you with  
14 that kind of questioning.

15 I also wanted -- I think you were just  
16 touching on it, Mr. Webster, was when you talk about  
17 provisional license, I thought also during this  
18 process the question had come up about should it be  
19 a 20-year license extension? It hasn't come up much  
20 yet from an NRC perspective, you know, can they come  
21 in and ask for 20? Do we give them 10? Ms. Lampert,  
22 it kind of touches on that bathtub curve. And you're  
23 right, Mr. Lochbaum probably 15 years ago I think  
24 sent a letter in with that bathtub curve, very well

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1 spelled out in a letter to the NRC. So, as you get  
2 towards the 60-year and 70-year, I'd appreciate in  
3 this process time, and maybe we pick it up in the  
4 safety side, I've lost track of time, but this  
5 bathtub curve idea, and at least process wise the  
6 10-year type. I just open that up for comments.

7 MR. LOCHBAUM: I guess I'm not smart  
8 enough to figure out what the 20-year -- what the  
9 right time frame is, so I guess what I'm trying to  
10 look at instead is regardless -- unless you're  
11 perfect at identifying what that right frame is, how  
12 do you protect against coming up short? So, I want  
13 to look at the process to see if the aging management,  
14 the inspection regime, the frequencies, if it's not  
15 right, will the wrongness be found soon enough to  
16 protect?

17 So, since I don't know what that number  
18 is, I'd try not to spend a lot of time figuring out  
19 whether it's 20, 30, 10, or whatever, but if you come  
20 up -- if you're wrong, will you know that soon  
21 enough? And I think that's where our best value is  
22 adding that process, because I don't think anybody  
23 can really determine -- I don't think 20 is  
24 necessarily wrong. I guess when Melanie had asked the

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1 question, I'd never thought of it because I never  
2 looked at trying to move it up, or shift it back. I  
3 mainly focused on how do you -- again, if you come  
4 up short will you know that soon enough?

5 MR. YOUNG: That was for the application  
6 point. I'm talking about an extended --

7 MR. WEBSTER: Well, let me just -- I  
8 mean, I personally think that it's a great idea to  
9 have on the table shorter and shorter renewals. I  
10 mean, if you're going to do any renewals, which I  
11 still question, but start with 40, go to 20. I think  
12 it certainly needs to be considered carefully  
13 whether it really makes any sense when you're in  
14 completely uncharted territory in terms of world  
15 operating experience. Can you predict well for 20  
16 years? I sincerely doubt it. If you start to draw  
17 those error bars in those predictions they go way off  
18 the charts.

19 MR. YOUNG: Yes, I mean, of course I  
20 support the 20-year extensions, but it's for the  
21 reasons that, first of all, the licenses are  
22 conditional, so if something happens during that  
23 term the plant will shut down, anything that would  
24 affect safety and economics. So, it's not uncommon

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1 for the issues that come up on the plants that cause  
2 a shutdown are economic issues rather than safety  
3 issues.

4           And I think the 20-year term for the  
5 license does give some stability to the process in  
6 that if there's investments to be made to allow the  
7 plant to operate for those longer periods of time,  
8 and as has been reported in the press in many cases,  
9 we're talking investments of over a billion dollars  
10 on these plants for improvements and upgrades after  
11 a renewed license is issued. That's based on the  
12 ability to run the plants for those longer periods  
13 of time. If you shorten the period of time, then the  
14 opportunity for investment is reduced and,  
15 therefore, the opportunity to keep the plants  
16 operating safely for these long periods of time is  
17 reduced.

18           MS. LAMPERT: Why would that be true if  
19 the NRC decided to regulate and enforce? Then you  
20 would have to spend the money if it were required for  
21 safety, whether it was for five years, 10 years, 20  
22 years. That should be irrelevant.

23           MR. YOUNG: Oh, absolutely, but what I'm  
24 saying is if the investment to continue to operate

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1 for five years was a billion dollars, or two billion  
2 dollars, then the decision could be made to shut the  
3 plant down; whereas, if the investment was stretched  
4 out for 20 years, then it could be justified and the  
5 plant would be allowed to continue to operate safely.

6 MS. LAMPERT: So that would be the  
7 marketplace.

8 MR. WEBSTER: But, Garry, you can't have  
9 it both ways. On the one hand you can't say at any  
10 time it's provisional, we'll invest the money it  
11 takes. On the other hand, we need business stability.

12 MR. YOUNG: No, but that is the exact  
13 balance that we have to look at continuously and  
14 evaluate. So, we always know the plant can shut down  
15 at any time if something comes up as a surprise, but  
16 if we know we need to replace some components or  
17 equipment, which is what we're doing now, you know,  
18 with things like power uprates where we're replacing  
19 all the feedwater heaters and the moisture  
20 separators, the turbines, the generators, spending  
21 upwards of a billion dollars on a single unit,  
22 recognizing that we're upgrading that plant so that  
23 it can operate reliably and safely for longer periods  
24 of time, then we'll make the investment. And if

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1 something happens within five years of that, we do  
2 lose that investment.

3 MR. WEBSTER: I know. Respectfully,  
4 that's called capitalism. You take a risk. These  
5 plants are not a license to bring money.

6 MR. YOUNG: No.

7 MR. WEBSTER: These plants, you take a  
8 business risk, you invest it, and sometimes you  
9 succeed, and sometimes you fail. If you take -- if  
10 you evaluate your risks well, you make money. If you  
11 evaluate them poorly, you lose money. It's not the  
12 NRC's job to make sure you make money.

13 MR. YOUNG: No, but if you know you've  
14 only got a five year window to work with versus 20  
15 years, then that does make a big difference in the  
16 business.

17 MS. LAMPERT: If you're operating at what  
18 you said, 60-year plant in the utility structure, you  
19 pass that on. Otherwise, I mean, it's not coming out  
20 of Wayne Leonard's pocketbook, you know. And for the  
21 others, you pass it on to the cost of generating the  
22 electricity. And as we said, that's doing business.

23 MR. WEBSTER: Can you just explain a  
24 little bit why a shorter term would lead you to change

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1 your investments? That's interesting to me because  
2 - can you elucidate a little more on that point?

3 MR. YOUNG: Well, certainly it's a  
4 business risk issue. You evaluate your risk. If you  
5 have a license for a particular term, you make your  
6 decision based on that. If you have to renew the  
7 license more frequently, then you have to look at the  
8 risk of what that may mean financially. And that's  
9 what we do all the time.

10 MR. WEBSTER: Right, but you've always  
11 got a risk that something comes up and forces you to  
12 invest money. Right? Irrespective of whether it's a  
13 license renewal or not.

14 MR. YOUNG: Right.

15 MR. WEBSTER: The license renewal  
16 process itself is not sufficiently expensive to  
17 really make a big dent in your profit and loss  
18 statement. Right?

19 MR. YOUNG: The license renewal process  
20 itself is relatively expensive, but the biggest  
21 investment is in maintaining equipment.

22 MR. WEBSTER: Right. But I guess what I'm  
23 saying is wouldn't you be maintaining the equipment  
24 whether the renewal period is five years, 10 years,

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1 or 20 years?

2 MR. YOUNG: For the period of the  
3 operating term, yes.

4 MR. WEBSTER: And if you're always -- if  
5 aging is always on your mind, how does that change  
6 whether the period is five years, or 10 years?

7 MR. YOUNG: It just changes from the  
8 perspective of the risk of whether or not you'll get  
9 another renewal on your license. It has to be  
10 evaluated on a case by case basis.

11 MR. WEBSTER: Right. But I guess what I'm  
12 saying is is it the NRC's job to save you from  
13 business risk?

14 MR. YOUNG: No. And we're not implying  
15 it's the NRC's job. We're just saying that our  
16 preference is to have a 20-year window to work with,  
17 which is what is in the current regulations. And that  
18 works well.

19 MR. WEBSTER: Well, let me ask you, would  
20 you prefer 30 years?

21 MR. YOUNG: Yes.

22 MR. RAKOVAN: All right. I'd like to go  
23 to Mr. Riccio, and then I'd like to check the phone  
24 lines again. Jim?

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1 MR. RICCIO: Again, we think operating  
2 beyond the current license renewal term is an  
3 absurdity. I don't actually believe you'll get there  
4 because I believe gas is going to crush this  
5 industry.

6 I'm glad you brought up the issue of  
7 -- or Garry brought up the issue of power uprates,  
8 because that has nothing to do with safety. You  
9 boosted the power on 40-year old reactors shaking  
10 them to shutdown. You collapsed cooling towers, and  
11 then turned around and relicensed the reactors.  
12 Really, way to instill public confidence.

13 We don't think they should be -- and,  
14 actually, that's one of the reasons I don't want to  
15 see a 20-year extension because that would probably  
16 allow you to amortize out capital additions for that  
17 20-year period when you don't know that you're  
18 actually going to operate, so it should be a much more  
19 realistic extension term which we don't believe you  
20 should go to anyway. But at least limit it five, 10,  
21 15, maybe every five years come in if you wanted to  
22 try to continue to operate reactors.

23 I know we're not supposed to get into the  
24 problems with safety, but back when you were

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1 originally relicensing these reactors, under the  
2 original rule there was an NRC document that showed  
3 the embrittlement of these reactor vessels, you're  
4 not even going to -- you're going to reach drop dead  
5 points. And I know you've reconfigured cores and  
6 tried to reduce embrittlement, but you've been  
7 pencil-whipping those calculations for years, and  
8 opening wider and wider gaps in your safety net.

9 MR. RAKOVAN: Julie, can we do one more  
10 check on the phone lines to see if anybody would like  
11 to make a comment or ask a question on the phone  
12 lines?

13 OPERATOR: Okay. If you do have a  
14 question, please press the \*1. I guess there are no  
15 questions, sir.

16 MR. RAKOVAN: Okay. Thank you, Julie.

17 MS. SAKAI: I do.

18 MR. RAKOVAN: Stacie, go ahead.

19 MS. SAKAI: This ties back into what  
20 Brian Holian said about the operating experience for  
21 aging management programs, and this might be  
22 something that could be discussed further. I know  
23 there is operating experience for these aging  
24 management programs, but consideration for new

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1 programs, which aren't necessarily required to be  
2 implemented until the plant reaches the 40-year  
3 point. So, if that's something for consideration for  
4 either this discussion or the later discussion, I  
5 don't know how you want to handle that, or just  
6 something for consideration, as well.

7 MR. RAKOVAN: Any further comments or  
8 question on process for subsequent license renewal?  
9 Sir, if you could approach the mic and let us know  
10 who you are, please.

11 MR. SRINIVASAN: Srinivasan, member of  
12 the public on this side of the microphone, I guess.  
13 In the procedural thing, I just want to know how does  
14 the codes and standards take into consideration? In  
15 other words, if the ASME or the standards that  
16 -- codes and standards that are being applied for  
17 critical structures and components, if that will  
18 meet the 40-year and then the first extension of  
19 20-years, and so forth, what kind of a time frame in  
20 the codes and standards activity that it takes to  
21 extend the knowledge base beyond that level that will  
22 be incorporated appropriately in the ASME codes and  
23 standards for the industry to follow, as well as for  
24 the regulator to review and endorse? I don't know if

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1 anybody can --

2 MR. YOUNG: Well, I can touch briefly on  
3 that, because you mentioned specifically ASME codes  
4 and standards. There are groups within the ASME codes  
5 and standards looking at long-term operation and the  
6 effect that could have on the codes and standards.

7 As you probably know, the ASME code as  
8 far as in-service inspection is based on 10-year  
9 intervals. And they're revised every 10 years to  
10 address lessons learned and operating experience  
11 from the previous 10 years. So, the codes and  
12 standards are continuously updated and revised as  
13 new information comes in and new experiences. That  
14 will continue, so this 10-year cycle of reevaluating  
15 and updating, that will just continue to go on.

16 MR. WEBSTER: Yes. I mean, I -- generally  
17 the ASME standards that come up are the inspection  
18 standards, and they are used as a baseline, but I  
19 think that very often we would do far better actually  
20 using some data and some analysis to derive those  
21 inspection intervals. And, also, there are standards  
22 on inspection. I think, for instance, for corrosion  
23 on the code things, I know that the ASME standard says  
24 visual is fine. It says that visual misses a lot, so

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1 I think there's -- maybe there's some room to change  
2 the standards, or maybe there's some room to change  
3 how they're applied, because I think there's a  
4 -- again, there's a huge industry influence in how  
5 the standards are made, and the industry has a strong  
6 influence, or a strong interest in keeping  
7 inspections quick and cheap.

8 MR. MEDOFF: This is Jim Medoff. I think  
9 we can -- we'll address your questions on how codes  
10 and standards are used in license renewal  
11 applications. We can discuss that during the safety  
12 side because it really gets into condition  
13 monitoring programs and how codes and standards are  
14 used in those types of review. Okay? So, I think  
15 tabling it to the safety side is probably the proper  
16 way to --

17 MR. WEBSTER: So, thanks to the audience  
18 for enjoying a very long panel.

19 MR. RAKOVAN: Any parting comments or  
20 questions before we go ahead and take a break?

21 MS. SAKAI: I have a logistical thing.

22 MR. RAKOVAN: Please, Stacie.

23 MS. SAKAI: One thing is a reminder on  
24 parking tickets, if you do need parking tickets they

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1 are out in the check-in table, so you make sure you  
2 have that before you leave. And the second piece of  
3 information is that the large handout packets that  
4 were out there did not contain one of the safety  
5 presentations, so please make sure you do get that  
6 for the next panel, if you do need it, or if you plan  
7 to stick around. Thank you.

8 MR. RAKOVAN: We'll start back in with  
9 our next panel at 10:40. And if the panelists could  
10 be up and ready to go at that point, I would  
11 appreciate it. Thank you.

12 (Whereupon, the proceedings went off  
13 the record at 10:23:43 a.m., and went back on the  
14 record at 10:41:14 a.m.)

15 MR. RAKOVAN: Okay. Let's go ahead and  
16 get started again, coming back with our Safety Issues  
17 Panel. I'll go ahead and go through some quick bios  
18 of our panel really quick, and then I'll turn it over  
19 for our NRC staffer to give us a general overview and  
20 introduction to the concept.

21 Again we have Dave Lochbaum, and I'll go  
22 ahead and read the bios just in case people weren't  
23 here for the first reading. Dave is the Director of  
24 the Nuclear Safety Project for the Union of Concerned

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1 Scientists. His focus is on safety levels at  
2 operating nuclear power reactors in the U.S.

3           Hopefully still on the phone lines we  
4 have Mary Lampert. Mary is the Director of Pilgrim  
5 Watch, a public interest group in Massachusetts.  
6 Mary represents Pilgrim Watch pro se as a party in  
7 the adjudication process regarding Entergy's  
8 license application to extend operations at Pilgrim  
9 to 2032. The legal proceeding began in 2006 and is  
10 ongoing.

11           Also returning is Richard Webster.  
12 Richard is currently an Environmental Enforcement  
13 attorney at Public Justice in Washington, D.C. His  
14 academic background includes a BA in physics from  
15 Oxford University, a Master's in engineering  
16 hydrology from Imperial College London, and a JD from  
17 Columbia Law School.

18           Through Public Justice, he has  
19 represented citizens groups in a wide range of  
20 matters including the review of the decision by the  
21 NRC to relicense the Oyster Creek Nuclear Power  
22 Plant, and providing advice to Clearwater regarding  
23 the relicensing of the Indian Point Nuclear Power  
24 Plant.

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1 I'd like to introduce Sherry Bernhoft.  
2 Ms. Bernhoft is the Program Manager for Long-Term  
3 Operations within the Electric Power Research  
4 Institute or EPRI's nuclear sector. In this  
5 position, she is responsible for managing strategic  
6 planning, and a portfolio of research projects that  
7 provide the technical basis for operations of  
8 nuclear power plants beyond the current regulatory  
9 operating license term of 60-years in the U.S.

10 She holds a Chemical Engineering degree  
11 from Lafayette College, and MBA from Webster  
12 University, a Senior Reactor Operator Certificate at  
13 Crystal River 3, and a Shift Technical Advisor  
14 Certification at the Kewaunee Nuclear Power Plant.

15 I'd like to introduce Mr. Richard  
16 Reister. Mr. Reister manages the Department of  
17 Energy's Light Water Reactor Sustainability Program  
18 in the Office of Nuclear Energy. The LWRS Program  
19 helps to establish the technical basis for the safe  
20 and economic operation of existing nuclear power  
21 plants.

22 He has worked on nuclear matters within  
23 the DOE for over 20 years. He has a Master's of  
24 Science in Engineering Management from the George

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1 Washington University, and a Bachelor of Science in  
2 Mechanical Engineering from Purdue.

3 And finally, Mike Fallin. Mike has over  
4 35 years of experience in nuclear power, has worked  
5 with Constellation Energy for more than 12 years, and  
6 is currently with Constellation Energy Nuclear Group  
7 Fleet Nuclear Engineering Asset Management and  
8 serves as the Fleet License Renewal Implementation  
9 Coordinator. He has worked on the license renewal  
10 projects for Calvert Cliffs, Fort Calhoun, Beaver  
11 Valley. I always mispronounce this one, I want to  
12 call it Ginna. How do you pronounce this one?

13 MR. FALLIN: Ginna.

14 MR. RAKOVAN: Ginna. I always pronounce  
15 that one wrong, and Nine Mile Point. He has a BS  
16 degree in Nuclear and Mechanical Engineering from  
17 the University of Maryland, and also served in the  
18 U.S. Navy's Nuclear Power Program.

19 Again, we'll use the same kind of  
20 process that we used for the first one. We're going  
21 to have an NRC staffer give a brief overview of the  
22 topic at hand, in this case safety issues. And then  
23 we'll look to our panelists to give opening  
24 statements, and then open it up wide for public

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1 participation and discussion. So, I will go ahead and  
2 turn it over to our NRC Staffer, Bennett.

3 MS. BRADY: Good morning. Thank you,  
4 Lance, thank you all for being here to participate  
5 in this process. We had an excellent discussion with  
6 the previous panel, and I'm very much looking forward  
7 to the discussion in this panel.

8 Stacie mentioned that we had two project  
9 managers in subsequent license renewal, and I'm the  
10 other half of that process. First slide, please.

11 In the last panel discussion we went  
12 over the general process for license renewal. In this  
13 discussion, I want to focus more on the safety  
14 review. Stacie in her discussion had a chart showing  
15 that we have two different paths for reviewing  
16 license renewal applications. One is the safety  
17 review, and the other is the environmental review.  
18 And both of these go on at the same time.

19 And today, I want to talk about our  
20 safety review process. I know from the previous  
21 discussion in the panel that most of you know a lot  
22 about our process. For those of you who don't, I'd  
23 like to go in a little depth about that. Although I'm  
24 describing the process for the first license

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1 renewal, I'd like to emphasize that that was the  
2 process for the first license renewal. We're open for  
3 suggestions, comments on how the second license  
4 renewal should go. And the comments, we welcome them.  
5 What I am saying now is from background and a context  
6 view to provide your comments.

7 After that, I'll briefly mention some of  
8 the safety issues that we see for subsequent license  
9 renewal. Again, I welcome comments from you about  
10 other safety issues that we should be considering.  
11 And then I will talk about a few of the activities  
12 that NRC has already begun to look at subsequent  
13 license renewal. Next slide, please.

14 To better understand the first license  
15 renewal rule, it's good to know some of the  
16 principles for that rule, at least the principles  
17 stated in the Statement of Considerations. And the  
18 first principle is that the current regulatory  
19 process, that is Part 50, the ROP, maintenance rule,  
20 technical specs, that it is adequate to insure that  
21 the licensing basis for all operating plants is  
22 maintained safely. And the second principle which is  
23 similar to the first is that the same operating  
24 rules, Part 50, apply to the same extent during the

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1 renewed period.

2 Plus, there's a lot more, and that more  
3 is the license condition for aging management, which  
4 is what we're talking about today. So, in other  
5 words, what is done for the period from 40 to 60 is  
6 the same as the first period, plus more, and that more  
7 is aging management. Next slide, please. That is the  
8 principles for license renewal.

9 I would now like to focus, I mentioned  
10 that our license renewal process focuses on the  
11 safety review of the passive and long-lived  
12 structures and the components in the scope of license  
13 renewal. And to tell you briefly about what the scope  
14 of equipment is that's in license renewal, there are  
15 three different categories. First are the  
16 safety-related systems, structures, and components  
17 which we call SSCs. Then second there are the  
18 non-safety-related systems, components, and  
19 structures, which if they fail could have an impact  
20 on the safety-related components performing their  
21 function.

22 Those of you that are familiar with the  
23 Maintenance Rule will probably recognize that these  
24 are the same two categories for the Maintenance Rule.

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1 And then the last category is SSCs relied upon for  
2 compliance with certain regulations, and those five  
3 regulations are fire protection, environmental  
4 qualification, pressurized thermal shock,  
5 anticipated transients without SCRAM, and station  
6 blackout. Next slide.

7 What I described in the last slide was  
8 the scope of license renewal. License renewal, for  
9 all the components within that scope that are both  
10 passive and long-lived, the license renewal rule  
11 requires that the applicants conduct an aging  
12 management review. For passive components, I mean  
13 components that do not change states or have moving  
14 parts, and examples of these would be the reactor  
15 pressure vessel, containment, all component  
16 supports, and the long-lived components, that is  
17 components that are not replaced on a specified time  
18 frame.

19 Thus, again, it's the passive and  
20 long-lived components and the structures that are in  
21 the scope of license renewal, we require the plants  
22 to specify how they will manage the aging. The active  
23 and the short-lived components are excluded from  
24 these. They have frequent demand surveillance tests

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1 on these components that will indicate their  
2 condition, and they're also managed by the  
3 Maintenance Rule.

4 And the focus of the safety review is to  
5 determine if the aging effects will be effectively  
6 managed by the programs that the licensee describes  
7 in their license renewal application. Next slide.

8 So, this describes what the focus of our  
9 safety review is. I would now like to talk about some  
10 of the activities that the NRC does in depth to do  
11 their safety review. First, there is a very extensive  
12 review of the application and supporting  
13 documentation. We look at the application, we look  
14 at the methodology that they've said how they're  
15 going about determining their SSCs and their scope,  
16 and then we've reviewed if they have correctly  
17 implemented this methodology to identify the  
18 components in the scope. And then lastly, we look at  
19 how they plan to manage aging.

20 We also do audits to the plants to go  
21 look and see how their programs match with what's  
22 describe in the license renewal application. We also  
23 have inspectors from the Regions that go to the  
24 plants, and also to look at the procedures, their

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1 programs to see if they are consistent with what was  
2 described in the application.

3 We may have additional RAIs that come  
4 out of this process, and the additional information  
5 that does revise the license renewal application.  
6 This was mentioned in the earlier panel.

7 And, lastly, we have an independent  
8 review by the Advisory Committee on Reactor  
9 Safeguards. They review the applicant's license  
10 renewal application. They review the Safety  
11 Evaluation Report from the staff, and they also  
12 review the inspection findings, and they make a  
13 recommendation to the Commission on the decision for  
14 license renewal. Next slide, please.

15 To this point I've been talking about  
16 the first license renewal period. Now I would like  
17 to move to subsequent license renewal, and talk about  
18 some of the issues in that. We already know that  
19 industry is doing research on some of the major  
20 topics for subsequent license renewal, such as  
21 neutron embrittlement of the reactor pressure  
22 vessel, concrete and containment performance after  
23 long exposure to high temperatures and radiation,  
24 and then cables and insulation, what are their

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1 environmental qualifications, testing. Those are  
2 some of the three that everyone thinks are very  
3 important, and I look forward to hearing some of our  
4 panel today discussing the research that they are  
5 doing in these areas.

6 And there are the known aging mechanisms  
7 that we wonder could they become more active in  
8 aging, accelerate during the period from 60 to 80  
9 years. And then lastly, are the known unknowns, will  
10 there be new aging mechanisms that we might see from  
11 60 to 80 years that we don't know about today. Next  
12 slide.

13 As I mentioned briefly, we have already  
14 begun preparing for subsequent license renewal, and  
15 activities going on to look at these safety issues.  
16 One of these activities is what we call the AMP  
17 effectiveness audits to look at how effective have  
18 the aging management programs been in preventing,  
19 identifying, and managing aging in the first period.  
20 I know in the last panel there was suggestions that  
21 the NRC should look at how these aging management  
22 programs have performed, and the analysis that were  
23 done for the first term.

24 We visited two plants, Ginna and Nine

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1 Mile Point, each of which have been in their period  
2 of extended operation for two years, and we've  
3 reviewed all of their documentation, what they  
4 -- the program basis documents, the inspection  
5 procedures, condition reports, corrective actions  
6 to look at this, and we will be coming out with a large  
7 report later on our two AMP effectiveness audits.

8           Second, there was a study done back in  
9 2007 looking at the major degradations of  
10 components. The Office of Research with DOE is now  
11 expanding and extending that study to look at some  
12 of these major issues that I mentioned before, and  
13 also to look at these sort of predictions of agings  
14 from 60 to 80 years, and what might be the gaps in  
15 our knowledge, and in our research that need to be  
16 done for subsequent license renewal.

17           We are also holding workshops and public  
18 meetings. There have been -- in cooperation with our  
19 partners there have been two large international  
20 workshops on plant life extension, and another major  
21 international workshop this next week, which will be  
22 in Salt Lake City. We also plan to have more public  
23 meetings like this, perhaps webinars. There were a  
24 lot of comments earlier this morning on public

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1 participation, and we welcome how -- what forms you  
2 would see and recommend for getting more public  
3 participation from all stakeholders for subsequent  
4 license renewal.

5 And then, lastly, we're reviewing  
6 domestic and international operating experience, as  
7 well as the periodic safety reviews to learn the  
8 lessons that we can from these. There was a lot of  
9 discussion earlier this morning about operating  
10 experience, which we consider very important. And  
11 this will inform our process for subsequent license  
12 renewal. Thank you, Lance, go ahead.

13 MR. RAKOVAN: Okay. Let's go ahead and  
14 turn to our panelists now to give them a chance to  
15 make an opening statement, if you will. I'm going to  
16 try to mix in some of the new panelists with the ones  
17 that were in the previous session, so if it's okay  
18 I'd like to start off with Ms. Bernhoft, please.

19 MS. BERNHOFT: Can everybody hear me?  
20 Okay, what I'd like to do, and thank you for the  
21 opportunity to be here. For those who don't know what  
22 the Electric Power Research Institute, or what we  
23 commonly refer to as EPRI, and for those who aren't  
24 aware of EPRI, we are not-for-profit R&D

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1 organization. We have membership from the U.S., and  
2 quite a bit of international participation, as well.  
3 So, we can help with the OE piece.

4           Based on our membership interest in  
5 long-term operation, we started a formal program  
6 called our LTO program in 2009, and focus was to bring  
7 together a lot of ongoing research we have in areas  
8 that Bennett talked about, and we wanted to take all  
9 those research talents we have and challenge them  
10 what would it look like if we operate from 60 to 80,  
11 or 80 beyond, what more we need to do, where are our  
12 gaps, what type of programs do we need to start  
13 designing to get ready. And EPRI's role in this is  
14 not to make a business decision, but our role is to  
15 perform the research and development, i.e., to  
16 provide the science that we can give out to our  
17 members, give to the public that people can be making  
18 informed decisions. That's really our role.

19           So, now talking about that, what is our  
20 approach? And I do have formal overheads. I'm just  
21 trying to summarize for the sake of time what's on  
22 those, but I invite you to look at those in detail.  
23 Our approach is that we first bring in all the  
24 industry experts, subject matter experts in order to

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1 do this collaborative research. We do work quite a  
2 bit with DOE. I think Rick will talk about that some.  
3 We also have the ability because our membership is  
4 international, that we bring in our international  
5 partners. We work heavily with EDF, we work heavily  
6 with Tokyo Power. Korea has been quite involved, so  
7 we do have that ability to bring in that  
8 international OE, lessons learned.

9 We also rely heavily on pilot studies  
10 for our work. That's important for a number of  
11 reasons. One is we go out to actual operating plants  
12 to obtain data, and we also use the actual operating  
13 plants to validate the studies. And I won't take away  
14 from Mike's talk, but he'll talk a little bit about  
15 a couple of studies that we've done at Ginna and Nine  
16 Mile Point. And then we also have an industry  
17 advisory structure with several people throughout  
18 the industry both in the U.S. and internationally to  
19 help focus our research, because Bennett's point is  
20 well taken that we need to continue to challenge  
21 ourselves that we're finding any areas that could  
22 come up in the 60 to 80-year period. We want to make  
23 sure that we're closing those research gaps as early  
24 as we can.

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1           We do have three primary areas that we  
2           classify our research around, and if you look at the  
3           overheads there's a nice -- there's kind of a busy  
4           picture of a plant that shows that, but we look at  
5           kind of three areas. And one is what we call the  
6           potential age-limiting areas, and those would be  
7           things like the primary metal systems, the reactor  
8           pressure vessels, the cables and concrete  
9           structures. We have research designed around those.

10           We also have a whole area of research  
11           that we're calling modernization. And this speaks to  
12           the fact that if the plants are going to extend their  
13           operating license, we certainly want to take  
14           advantage and provide them the tools and the  
15           background on things like advancements in I&C  
16           systems. We're also doing a lot of work with DOE on  
17           advancements in fuels to make the fuel safer and more  
18           robust.

19           The other thing that we're looking at is  
20           an area of work that we're calling enabling  
21           technologies. And, again, these are enhancements  
22           that we're looking at that will help improve safety  
23           margins. There's current safety codes out there  
24           right now, but as everybody knows analytical

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1 techniques have improved, so we're working quite  
2 closely now with DOE on taking the advancements that  
3 have been done, analytical techniques and updating  
4 how we're doing these codes and analysis. Also, based  
5 on lessons learned from Fukushima, we're looking at  
6 how we do our probabilistic risk assessments, and  
7 also expanding that to the spent fuel pools. And then  
8 we're also looking at tools that will assist our  
9 members in doing what we call integrated life cycle  
10 management. That will be a powerful tool that will  
11 help them put in a lot of operating experience on  
12 large major assets, and combine that with the  
13 plant-specific conditions to help give them some  
14 type of a prediction to what the remaining useful  
15 life on some of those major capital assets will be.

16 Our research is broken into nine  
17 different areas. Again, if you go to the overheads  
18 you can see those, but given the time remaining what  
19 I'd really like to talk about is just address the  
20 specific areas that Bennett brought up as the areas  
21 of NRC interest.

22 The first area that was brought up was  
23 the neutron embrittlement to the reactor vessels. We  
24 are actively working right now with the industry on

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1 doing what we're calling an Extended Surveillance  
2 Capsule Program; that is, there's a limited number  
3 of capsules that go into vessels right now that are  
4 flux field, and then we basically destroy those  
5 capsules to give us information on what the vessel  
6 belt line condition looks like. Based on that limited  
7 number of capsules, we are looking at ways to extend  
8 the capsule harvesting intervals to get more data.  
9 We're also looking at ways to take existing capsules  
10 that have been taken out and reintroducing them into  
11 the vessel so we can continue to irradiate those.  
12 That project has been going on for a while, and the  
13 goal of that project is to expand our knowledge of  
14 what's going to happen to the vessel out beyond 80  
15 years.

16 Another area we're working on is  
17 concrete and containment performance after the  
18 exposure to long-term high temperatures and  
19 radiation. End of last year, EPRI did publish a very  
20 comprehensive handbook on concrete. It includes  
21 these topics, as well as chemical attacks, all types  
22 of environmental degradation, and have pulled  
23 together OE that we've seen at nuclear power plants  
24 up until this point. It's the first manual that we

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1 know of that exists like that.

2 We've also worked with Ginna on some  
3 plant demonstration projects that Mike will talk  
4 about a little bit more. We completed a literature  
5 search on irradiation work that's been done around  
6 the world, and right now we're working actively with  
7 DOE and EDF on designing a program we're going to  
8 harvest irradiated samples, things like behind the  
9 shield walls at Zion, and the Zorita plant in Spain,  
10 and be able to compare that concrete unirradiated to  
11 having been irradiated in those type of situations.

12 The other area we talked about was  
13 cables. EPRI has been doing work on cables for well  
14 over 20 years. We've published guidelines on aging  
15 management for medium and voltage cables. And  
16 through these guidelines the industry is now out  
17 doing inspections and testing. We've developed some  
18 testing tools, the tan delta and the Withstand Test  
19 are very valuable tools that can tell the aging  
20 condition of your cables.

21 We'll continue to gather that data.  
22 Where we want to go with our research in the future  
23 is two things. We want to work with DOE to develop  
24 some irradiated testing of cables, advanced aging

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1 testing of cables, and we also want to continue  
2 working on diagnostic tools for cables to see if we  
3 can again help the industry understanding the  
4 remaining useful life.

5 The point I want to make about cables is  
6 once we understand the condition of the cables, then  
7 the utilities, if they are going to show aging  
8 issues, we can start proactively replacing cables.  
9 Cables can be replaced.

10 To the question of the unknown  
11 mechanisms, I mean that's an area where we continue  
12 to challenge ourselves. Some of the things could be  
13 incubation times, activation, energy, late-blooming  
14 effects. Within EPRI we have a formal process, and  
15 it's called the Materials Degradation Matrix. The  
16 MDM is a published document. We get together on a  
17 routine basis with a cross section of industry and  
18 materials experts. We gather existing OE, and  
19 lessons learned, and we continue to incorporate and  
20 update that MDM. And this serves as the basis for  
21 directing some of our future research looking for  
22 these material degradation issues.

23 Based on this, we do have active  
24 programs going on in environmentally assisted

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1 corrosion, fatigue management, irradiated assisted  
2 stress corrosion cracking. We're also working on  
3 welding technologies for irradiated materials.

4 With regard to the question of the  
5 unknown aging phenomena and the effectiveness of the  
6 GALLs and the AMPs, you already talked about this  
7 some but I'll elaborate on it a little bit, is that  
8 we are engaged with the industry on a proactive  
9 review of the GALL and the Aging Management Reports.  
10 We'll be incorporating industry experts, the Owners  
11 Groups, what we have in our MDM. We're hoping to be  
12 able to see the PMDAs that the NRC is working on, and  
13 from that we will identify what AMPs we believe are  
14 in need of revision or enhancement, and where we see  
15 there are new areas that we have to work on AMPs. That  
16 concludes my remarks.

17 MR. RAKOVAN: Thank you very much. Mr.  
18 Webster, if you're ready we could go to you next.

19 MR. WEBSTER: Okay. Well, I've called my  
20 portion of this, life beyond 60 years, fact or  
21 fiction, because at the moment it's fiction, and I  
22 submit to you that there's a lot of work to be done  
23 before we can get anywhere near thinking about it as  
24 being fact.

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1           Okay. So, looking at -- again, I want to  
2           try to make this discussion a little bit data-based.  
3           Sometimes I think we get into too much speculation.  
4           I mean, EPRI does a great job, by the way. The only  
5           problem is that the public are completely excluded  
6           from it. The public don't get to see the background  
7           data, don't get to see even the reports sometimes  
8           unless we pay large amounts of money. So, I don't  
9           think EPRI can be the driver of public policy. Public  
10          policy should be made in the open. It should be made  
11          based on data that's available to all, and that's a  
12          big problem in the past.

13           So, looking at the broad picture  
14          operating experience, the UK has all this operation  
15          of the oldest reactors in the world. Calder Hall went  
16          to 47 years, was shut down because the maintenance  
17          became too expensive, basically. Oldbury went at 44  
18          years. Wylfa is just closing down at 41 years.

19           U.S. operating experience, Oyster Creek  
20          scheduled -- the oldest reactor currently  
21          operating, I think by a few days at least, four  
22          months. It depends on how you count it. I've had all  
23          sorts of assertions about why it's not only just the  
24          oldest, perhaps a few hours or a few months, but I

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1 think everybody agrees it is oldest. It's closing in  
2 2019 after 50 years due to what Exelon call a unique  
3 set of economic conditions and changing  
4 environmental regulations. And those include the  
5 need for continuing large capital expenditures. So,  
6 even for the reactors that are licensed for 60 years,  
7 it's not clear they will operate for 60 years.

8 And, finally, for Mark 1 and Mark 2 BWRs,  
9 I think it's become -- we've always asserted that the  
10 licensing basis there was inadequate, the  
11 containment is inadequate. Sadly, we've had a very  
12 graphic demonstration of the inadequacy of that  
13 containment. We'd rather not have any more  
14 demonstrations of that, so far we got lucky. It's now  
15 time to get smart and not relicense those reactors.

16 So, we don't need any discussions of  
17 aging management for Mark 1s and Mark 2s. We don't  
18 need any more research on those, we've had plenty of  
19 that. What we need is to get those reactors closed,  
20 and we need to get them closed as quickly as we can.  
21 There should be no discussion whatsoever about  
22 extending their life.

23 So, further renewal should not be  
24 faith-based. If you looked at the Statement of

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1 Consideration for the current rule it says our  
2 regulations are basically handling everything. That  
3 was in the presentation from Bennett. The problem  
4 was, you look at the background of that, and there  
5 wasn't a lot of empirical study to find that out.  
6 Found some very interesting phraseology, it says  
7 things like, "Even though compliance with the CLB may  
8 not be there, we still believe there is reasonable  
9 assurance of compliance with the CLB," which I'm a  
10 lawyer, I was in law school, I'm still wrestling with  
11 that statement. But the Circuit Court bought it, so  
12 I guess it must be right.

13           So, here's a few things to go beyond  
14 faith and start looking at the facts. I think we  
15 should compound operating experience centrally, and  
16 we should compare predicted versus actual for AMPs.  
17 I don't think we should even think about any further  
18 renewal until we have at least 10 years of operating  
19 data into the period of extended operation.

20           You know, we're going to go to the point  
21 where we're going to have the oldest reactors in the  
22 world. It's very hard to extrapolate forward into  
23 unknown territory. The error bars start to go out  
24 very fast, so let's not make ourselves an experiment

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1 that the consequences of failure are extremely  
2 large.

3 We need a comprehensive review. Just  
4 limiting the review to aging management starting  
5 now, as we've seen, I mean, I've advocated this for  
6 a while, I think we need to close out Generic Safety  
7 Issues on license renewal. If you can't close them  
8 out generically, close them out on a plant-by-plant  
9 basis.

10 Seismic, if the seismic assumptions  
11 have changed, you've got to take them into account  
12 on license renewal. I mean, this -- at any other  
13 forum that would hardly be controversial. You've got  
14 to look at what your current estimates are, not what  
15 the estimates were 40 years ago. Evacuation, you've  
16 got to know what the population is now, not what the  
17 population was. Similarly, evacuation, you've got to  
18 look at for 50 miles, not 10 miles. You might not want  
19 to look at limited small circles at all. Similarly  
20 with evacuation you've got to look at vulnerable  
21 populations, not just people who can jump in their  
22 cars.

23 Coming to the CLB, the problem with the  
24 CLB is no one knows what it is. It's a concept, not

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1 a reality. It's very hard to ensure compliance with  
2 the CLB when you don't know what the CLB is. I've had  
3 a whole hearing where we contested with the staff  
4 what the CLB was. It's pretty hard to review an aging  
5 management program if you don't even know what the  
6 goal that it should be maintaining is.

7 So, step one in looking at license  
8 renewal and it should have been step one with the  
9 current license renewal rule -- I should emphasize,  
10 it should have been step one for the current license  
11 renewal, is compile the CLB. Let's find out what the  
12 CLB is. Then we need to integrate severe accident  
13 protection and mitigation into the CLB. Totally  
14 inadequate that's outside the CLB. You know, the NRC  
15 Task Force properly recommended bringing this into  
16 the CLB. You've got to fix this stuff. You can't go  
17 on forever building on assumption, upon assumption,  
18 upon assumption until you have this complete house  
19 of cards which is going to collapse.

20 And then we've got to consider upgrades  
21 in the CLB. Now, as I've said with the Mark 1s, you  
22 know, yes, what you need to do there is upgrade the  
23 CLBs before they can uprate, and they don't have any  
24 containment. You've got to consider both upgrades to

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1 the CLB that actually will bring these reactors into  
2 line with the operating reality that they were once  
3 thought to meet.

4 Now, looking at aging management, we  
5 need to verify the configuration. So often, what's  
6 on the as-is drawings is not actually what's in the  
7 reactor. So, even before you start to look at AMPs,  
8 step one is to verify the configuration.

9 Step two, figure out what you've got  
10 there. We've got to look here -- one of the big  
11 problems I think is when you're doing design you  
12 don't really have to look at the spatial and temporal  
13 variability that much because you spec it out. But  
14 when you've got a reactor that's been subject to  
15 corrosion, it's been subject to embrittlement, these  
16 things are variable under space and under time, so  
17 you've got to look at very carefully the spatial and  
18 temporal variability.

19 You've then got to define your margins,  
20 what margins do you want, and what uncertainty in the  
21 knowledge of those margins are you prepared to  
22 tolerate. You've then go to define past aging rate  
23 of increase in fatigue and predict the uncertainty  
24 in that aging rate.

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1 I mean, I'm recommending at least 95  
2 percent certainty that margins are being maintained.  
3 Unfortunately, the Commission is happy with 50  
4 percent certainty the margin is being maintained. I  
5 hope the industry is not happy with that, but I guess  
6 we'll hear from them.

7 You know, operating a plant on the basis  
8 that you're only 50 percent certain that you're  
9 maintaining the CLB, I don't think is adequate, and  
10 I hope that the industry doesn't think it's adequate  
11 either, even if the Commission does.

12 And we should monitor larger areas or  
13 monitor more often to reduce uncertainty. At the  
14 moment I really think that there's just a tremendous  
15 failure to evaluate uncertainty explicitly. And once  
16 you start evaluating uncertainty explicitly, I think  
17 you'll see that we have a massive amount of error,  
18 and we need to manage it, and we need to take account  
19 of variability. So, I think that's all I've got for  
20 now. Thanks.

21 MR. RAKOVAN: Thank you very much, Mr.  
22 Webster. If we could jump over to Mr. Fallin, if  
23 you're prepared, if we can get a microphone over to  
24 him, please.

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1 MR. FALLIN: Okay. Can you hear me? Okay.  
2 Thank you for this opportunity to participate in this  
3 panel. I wanted to talk about the technical  
4 considerations for operating license renewal space  
5 and subsequent license renewal. Technical --

6 MS. BRADY: Sylvia, can you give him the  
7 slide?

8 MR. RAKOVAN: You can always just say  
9 next slide, and we can take care of it, if that's --

10 MR. FALLIN: Well, that's how it looks.  
11 The research for the industry is done by several  
12 agencies. I mean, we have DOE, we have EPRI, we have  
13 the NRC all doing research in the areas of operation  
14 of our plants to determine where there might be areas  
15 of improvement. And each plant and utility in the  
16 country and in the world is contributing to that with  
17 the operating experience that we receive from plants  
18 on a day to day basis.

19 The industry is involved in all aspects  
20 of technical research and collaboration through  
21 active participation with code committees,  
22 standards committees, professional organizations,  
23 working groups, conferences, workshops, and license  
24 renewal and subsequent license renewal are both

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1 direct and indirect recipients of all the research  
2 that is performed.

3 From license renewal perspective, and  
4 subsequent license renewal, the first workshop for  
5 subsequent license renewal was held in 2008  
6 sponsored by the NRC, DOE, EPRI, NEI. Subsequent to  
7 that meeting, NEI was tasked with development of a  
8 list of potential technical issues for looking at  
9 operation beyond 60 years to see if there were areas  
10 that needed -- what areas needed specific research.  
11 And the new license renewal working group was  
12 established for that. The list was developed and  
13 submitted to DOE, EPRI, and the NRC for review and  
14 comment, and that has been well vetted and is being  
15 maintained now by EPRI as far as the research that's  
16 being done in each of the areas that were identified.

17 And there's nothing magical or specific  
18 operational concerns for 60 years. Many of them, like  
19 Garry mentioned before, there are many other  
20 industries that have industrial facilities that are  
21 operating beyond 60 years, even 100 years. There's  
22 nothing magic about 60 years.

23 And from the list that we had developed,  
24 there are no showstoppers for operation beyond 60

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1 years at this point that have been identified. And  
2 each plant through its operating experience, what it  
3 does on a day to day basis provides a significant  
4 amount of data that supports research that is done,  
5 and is a data point for research that is done.

6 Plants that are now under periods of  
7 extended operation in particular -- okay. Plants  
8 that are now under periods of extended operation in  
9 particular are acquiring aging management related  
10 data through the implementation, administration,  
11 and ongoing evaluation, each plant program is  
12 credited for aging management under Part 54. And we  
13 at this point with the 10 plants that are in their  
14 periods of extended operation have greater than 17  
15 reactor years collectively beyond 40 years of  
16 operations.

17 And these results are captured in our  
18 work management systems, our corrective action  
19 programs, and we wind up sharing these results and  
20 OE through our industry working groups. We have  
21 specific license renewal task force for the  
22 industry, and working groups in each discipline. We  
23 have mechanical working group, an electrical working  
24 group, civil structural, implementation working

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1 group, and subsequent license renewal working group  
2 that all work together. We share all this information  
3 and we work with EPRI, with DOE, the vendors and  
4 industry technical consultants that deal with the  
5 issues that are identified and we've come up with to  
6 look for improvements in a way we're able to manage  
7 aging, and new methodologies to be able to do that.

8           And since license renewal has started  
9 occurring in the early 2000s there have been  
10 significant improvements in aging management  
11 technologies and methodologies. And we have ongoing  
12 collaborations that we're doing within the industry.  
13 Sherry mentioned the one that -- with DOE and EPRI,  
14 CENG is providing Ginna and Nine Mile One as plants  
15 to look at specific areas that are on that list of  
16 technical issues that were identified as being  
17 potential areas for concern with operating beyond 80  
18 years, one being containment concrete, one being  
19 vessel internals. And we're doing things at the plant  
20 to -- we've used techniques that haven't been used  
21 before to look at what happens with containment  
22 during structural integrity tests that we have to do  
23 every 10 years, pressurized containment to its  
24 design pressure, to make sure that it performs that

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1 function.

2 And we used methodologies that have  
3 never been used before to look at that, and to use  
4 as baseline going forward. When we do these  
5 inspections again, we can compare those and see where  
6 we have -- if there are any changes, and we can see  
7 from those -- the baseline the results down the road,  
8 whether there's evidence of degradation of  
9 performance of containment.

10 With the internals inspection, Ginna  
11 was the first plant, PWR to go through EPRI's MRP 227  
12 inspection, the standardized enhanced inspections  
13 for PWR internals. We harvested some bolts from that  
14 that are going to be used to look at any -- to do  
15 materials analysis to see if there's -- what kind of  
16 changes may have been exposed to see if there's any  
17 concern. So, we are doing things together.

18 We are starting -- now more than ever  
19 the industry is working together with each other and  
20 with all the stakeholders and the industry to do what  
21 we think is the right thing to do to continue  
22 operating our plants in a safe manner going forward.  
23 That's all I have.

24 MR. RAKOVAN: Thank you, sir. Brian,

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1 you've got a -- you want to interject real quick or  
2 something?

3 MR. HOLIAN: If that's okay. You know,  
4 Lance, I'm just -- I have to go to a separate meeting  
5 prior to lunch time, and I think we'll have time right  
6 after lunch for further discussion of this panel. Is  
7 that right?

8 MR. RAKOVAN: Yes, that's the way we're  
9 going -- we're going to allow the panelists to give  
10 their opening comments.

11 MR. HOLIAN: Okay.

12 MR. RAKOVAN: And then open it up to --

13 MR. HOLIAN: Thanks. And I will be back  
14 at least by that time frame, but I just wanted to  
15 comment on one slide, Mr. Fallin, that you had. And  
16 it's especially dear to me having just come from six  
17 months over in Research, so I just wanted to catch  
18 it now. We can have maybe a little discussion. If not,  
19 pick it up in the other panel.

20 But on the slide that said industry  
21 being -- research being done for industry, and we  
22 have NRC on there, that bothers me. Okay? So, we do  
23 not do any research for industry, and I just wanted  
24 to make sure I clarified that. I know that's not what

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1 you meant, but I couldn't let that slide -- go  
2 without saying that. We do confirmatory research for  
3 the issues, for the technical issues, and that is one  
4 piece that I -- one aspect for our technical staff  
5 here at the NRC to push. I know Dr. Hiser's been  
6 pushing it from the NRR viewpoint. I see Mike Case  
7 in the background, Division of Engineering, Division  
8 Director up at Research, and we have questions on how  
9 much research the industry is doing. And that's  
10 industry, DOE, EPRI, how much you're doing, what's  
11 the time frame of it.

12 We know we have an independent burden to  
13 do confirmatory checks on what the industry is doing,  
14 so I just wanted to separate that kind of at this time  
15 frame with the slide coming up, and I'm sure we'll  
16 talk more. Thanks.

17 MR. FALLIN: And you're right, and we do  
18 look forward to seeing it, if you do confirmatory  
19 research.

20 MR. RAKOVAN: Okay. Mary, if you're there  
21 would you like to give your opening comments on this  
22 particular topic?

23 MS. LAMPERT: Oh, I certainly would. I  
24 echo what Richard had to say. The concept of

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1 extending to 80 years is an absurdity. As a matter  
2 of fact, the GE Mark 1 and 2 boiling water reactors,  
3 it was recognized in 1972 by members in the NRC that  
4 they shouldn't be allowed to operate, but they caved  
5 to GE, and the industry, and went forward. We have  
6 had a dramatic example of three blowing up, and that  
7 should have blown up the concept of having them  
8 operate any further.

9 I call a spade a spade. The reason we're  
10 talking about this is the cost of building new  
11 reactors is too exorbitant, non-competitive, and so  
12 the game is to extend the licenses of what's there  
13 and power uprates to the detriment of the public.

14 I would say it's important to require  
15 what is required of new reactors, and that be applied  
16 to operating reactors in considering relicensing,  
17 and admit that those requirements are for safety, as  
18 opposed to passing it off so a cost-benefit analyses  
19 will be required, and we know, and I'll discuss more  
20 during the environmental section that the tools that  
21 NRC allows to do cost-benefit analyses guarantees  
22 that no mitigation changes will become  
23 cost-effective. The MACCS/MACCS2 codes are the  
24 examples.

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1 Further, the current aging management  
2 programs that I've dealt with lack any -- lack  
3 specificity and so, in fact, they provide no  
4 assurance. Examples would be for the buried cables.  
5 It requires what, a peek down the manholes once a  
6 year, and an unspecified inspection, unspecified  
7 that is not how many components have to be inspected,  
8 what length of the component, et cetera, et cetera.  
9 So, it's fuzzy nothingness. An example at Pilgrim,  
10 the manholes have been inspected and they're always  
11 full of water so, I mean, what does that mean?  
12 Nothing. The same would go for the buried components  
13 of tanks, pipes, et cetera where it's once in 10  
14 years. Again, unspecified, and it makes no sense,  
15 provides no reasonable assurance.

16 Now, that word "reasonable assurance  
17 and preponderance of the evidence standard," is  
18 essentially a SOP. It's undefined. The applicant,  
19 you always hear this, has the burden of proving  
20 reasonable assurance by a clear preponderance of the  
21 evidence. However, that's never defined. What level  
22 of assurance constitutes reasonable assurance? Is it  
23 51 percent, is it 95 percent, 60 percent, what? When  
24 pressed, the answer has been oh, it's engineering

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1 judgment. Well, who's judgment? So, I think we need  
2 some clarification there in any discussions going  
3 forward.

4 Adherence to the CLB, I understand that  
5 Jim Riccio mentioned was required until what was it,  
6 Yankee Atomic failed, and so then the rules were  
7 changed. So, we should go back for the sake of safety,  
8 and more specifically the question remains that we  
9 don't know are the licensees adhering to their  
10 licensing requirements? That has to be ticked off in  
11 any licensing -- license renewal process. What is  
12 the current license, check, check, check to make it  
13 transparent to the public.

14 We're talking about degradation, the  
15 importance of aging managing programs going forward.  
16 Again, as I said previously, there is no operating  
17 experience going forward so, therefore, basing  
18 judgment on looking backwards does not give you the  
19 answer you need. What we need before even -- if you  
20 persist in talking about 60 to 80, as these reactors  
21 such as Oyster Creek are retired, they should have  
22 autopsy and make that data publically available and  
23 transparent. That was a request when Yankee Atomic  
24 went down; however, it was not allowed. And that

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1 would have given some real answers.

2 We also need -- what else was I going to  
3 say? The question of degradation and going forward,  
4 if you haven't received an answer of the availability  
5 of qualified replacement components, so how are you  
6 going to get replacement components that are  
7 qualified for reactors that are 60 years old? That  
8 doesn't seem feasible. And because I'm not a nuclear  
9 engineer, I'll give you in summary a common sense  
10 statement.

11 Look around your house, look around your  
12 office. How many 40-year old appliances do you have  
13 that are operating? I think the answer will be zero.  
14 However, if a household appliance doesn't work, is  
15 one thing. But a nuclear reactor, consequences are  
16 so horrendous as we have seen, there is no point in  
17 taking this risk. Thank you very much.

18 MR. RAKOVAN: Thank you, Ms. Lampert. If  
19 we could go to Mr. Reister, please.

20 MR. REISTER: Thank you for having me  
21 here on the panel this morning. I manage the Light  
22 Water Reactor Sustainability Program for the  
23 Department of Energy, and the vision for that program  
24 is to enable the existing nuclear power plants to

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1 safely provide clean and affordable electricity  
2 beyond the current licensing period, beyond 60  
3 years. That can only be achieved if they can do  
4 safely, and if they can be economic. So, the goals  
5 of the program is to look at developing and  
6 understanding the fundamental scientific basis to  
7 allow continued operation, develop as needed  
8 technical and operational improvements, and to  
9 research new technologies to address enhanced plant  
10 performance, economics, and safety.

11 So, we've divided the program up into  
12 four technical areas, so I'll address -- I'll talk  
13 briefly about each of those four areas. The first  
14 area is what people typically think about when they  
15 think about long-term operation, and that's the  
16 materials area. So, again, we're looking at  
17 developing the scientific basis for understanding  
18 and predicting long-term environmental degradation  
19 behavior of materials that exist in nuclear power  
20 plants, provide data and methods to assess  
21 performance of systems, structures, and components  
22 essential to safe and sustained nuclear power plant  
23 operation and help define the operational limits and  
24 aging mitigation approaches for materials subject to

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1 long-term operation.

2           So, another way to look at this is to try  
3 to understand what materials are unique in nuclear  
4 power plants environments. As mentioned before,  
5 there's a lot of power plants, non-nuclear power  
6 plants and other facilities that have operated for  
7 a long time, but nuclear power plants have unique  
8 aging management systems, so we can take the data  
9 from other plants that have operated a long time,  
10 plus looking at the unique nuclear environments to  
11 understand what issues might exist at nuclear  
12 plants.

13           So, we want to understand -- for an  
14 aging mechanism we want to understand how fast that's  
15 occurring, the rate of degradation, understand  
16 abilities to detect that degradation using  
17 examination techniques, and look at what methods  
18 there might be to repair or replace those components.

19           Some of the specific areas that we're  
20 looking into right now, and again these are unique  
21 to nuclear environments, is the mechanisms and the  
22 high fluence effects on irradiated-assisted stress  
23 corrosion cracking. Looking at the high fluence  
24 effects on reactor pressure vessel steels, and that

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1 was mentioned before, the embrittlement to the  
2 reactor pressure vessels under irradiation effects.  
3 Looking at swelling effects, and phased  
4 transformations of high fluence core internals, as  
5 well as again we've mentioned that those are all  
6 metal components. And again that's what people  
7 typically think about in nuclear environments, is  
8 the metal inside a reactor and the reactor pressure  
9 vessel, but we're also looking at the degradation of  
10 concrete, and cables, as was also discussed.

11           Again, the focus of those mechanisms are  
12 on unique nuclear environments. There's a lot of  
13 concrete and cable around in various environments,  
14 but we're focusing on unique nuclear environments  
15 that might be different than what exists in other  
16 plants.

17           The second area we're looking at is  
18 advanced instrumentation and control systems. You  
19 know, the systems that are operating at the existing  
20 plants are adequate. The problem with them is they're  
21 aging, and the ability to maintain them is becoming  
22 a problem because they're for the most part analog  
23 systems, and replacement parts and maintenance of  
24 those systems becomes more difficult. Also, there

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1 are advantages that could be had if we move toward  
2 digital systems, so the implementation of digital  
3 systems at nuclear power plants have been somewhat  
4 problematic over time, so we're trying to work with  
5 industry to find ways to more easily implement the  
6 digital systems, both to upgrade old systems, and to  
7 get some of the benefits from digital systems.

8 So, we're working with pilot plant  
9 projects to understand better methods to implement  
10 digital systems at nuclear power plants. We're also  
11 looking at advanced condition monitoring techniques  
12 to understand the reliability of plant operation and  
13 development to detect and characterize aging  
14 degradation systems. So, most of the systems that  
15 exist today focus on active components, like pumps  
16 that vibrate, so that those systems exist but there  
17 are also ways to look at passive components using  
18 monitoring systems to understand the degradation of  
19 passive components. Passive meaning things that  
20 don't move, like pipes, concrete, cables, things  
21 that just sit there but you expect them to function  
22 in a certain way at certain times.

23 The next area, the third area as we call  
24 it, it's kind of a complicated name but it's

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1 Risk-Informed Safety Margin Characterization, so  
2 that's what was raised earlier, was I'm trying to  
3 understand the bigger picture of the safety margin  
4 of the plants. And that includes what was discussed  
5 looking at uncertainty. How does uncertainty fit?  
6 It's not just two points, you know, and you have a  
7 distance between those points, and that's your  
8 safety margin. There's uncertainty around those both  
9 the load that you'd expect to see, and the  
10 performance of the components, so you try to look at  
11 the uncertainty of those in a more comprehensive way,  
12 is the goal of the Safety Margin Characterization  
13 area.

14           And the tool -- one of the tools is to  
15 develop an enhanced safety analysis, what we call  
16 RELAP-7, but it's basically a computer analysis tool  
17 that could be used to better analyze and predict  
18 performance. This is a systems tool, so it looks at  
19 the plant, how the plant operates as a system, so you  
20 actually see it in a way simulate the operation of  
21 the plant under certain conditions to understand how  
22 it would perform.

23           And the final area is Advanced Light  
24 Water Reactor Nuclear Fuels, and the first question

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1 I usually get is why -- what do fuels have to do with  
2 long-term operation? And the answer is they don't.  
3 The fuel that we currently have is replaced  
4 periodically. It's not really subject to aging in a  
5 sense because it's replaced on a regular basis. It's  
6 not a component that stays in the plant beyond that  
7 regular refresh cycle, but there was no other program  
8 that was looking at advanced light water reactor  
9 fuels that could enhance performance over the  
10 existing design, zirconium-based design. So, we did  
11 a review of the different potential technologies and  
12 we selected silicon carbide cladding as a potential  
13 technology that could be used to really not just make  
14 a small change in the performance of the fuel, but  
15 a substantial change in the performance of the fuel.

16 And then later on looking at the  
17 Fukushima accident and the hydrogen production, one  
18 of the advantages of the silicon carbide cladding  
19 would be it would produce substantially less amount  
20 of hydrogen. So, there's a new initiative in our  
21 office, in a different office than mine, but looking  
22 at accident tolerant fuels, fuels that would be more  
23 tolerant to accident conditions. And it turns out  
24 silicon carbide cladding is one of those

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1 technologies that might provide some benefits in  
2 terms of accident tolerance, as well.

3 So, we'll be working with that office to  
4 look at the -- whether silicon carbide cladding, we  
5 feel would take a long time to develop, 10-15 years  
6 at best assuming everything went wrong and --

7 (Coughing.)

8 MR. REISTER: -- research as was  
9 mentioned earlier. It'll take a long time to see if  
10 that -- this new technology is workable.

11 So, what's the federal role, why is the  
12 federal government involved in this topic separate  
13 from the Nuclear Regulatory Commission and the  
14 industry? Well, we believe that safe long-term  
15 operations of existing plants is in the national  
16 interest.

17 MR. LOCHBAUM: Applications, and the  
18 NRC gives -- the process gives the public 60 days  
19 at the front end to do that same thing, so I  
20 appreciate the fact that you recognize we can do in  
21 60 days what it takes the Agency an army of workers  
22 to do over two years. So, I do appreciate that  
23 compliment quite a bit on behalf of the public.

24 A couple of things. We have a concern

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1 about one-time inspections, but we don't know right  
2 now what the better solution to one-time inspections  
3 are. We had a concern with the initial process, but  
4 since we couldn't come up with a better alternative,  
5 it's one of those things you watch, you have a concern  
6 but you can't think -- well, if you go to two time  
7 or second license renewal, one of the things we think  
8 we need --- the question that needs to be answered  
9 is what assurance is there that a one-time inspection  
10 done at year 39 of an original license is still valid  
11 at year 78 of a twice renewed license? With the aging  
12 curve, how do you know that that one-time inspection,  
13 where that was on that aging curve. Was it before the  
14 part where wear out takes over, did it bound that  
15 area, or was it that it's such that it's so early in  
16 the low period that you don't ever reach the part  
17 where the wear out curve takes off again? How do you  
18 know?

19 So, our recommendation would be for the  
20 NRC to compile some kind of -- what Richard  
21 mentioned, a database of results from one-time  
22 inspections, what was looked at, what was found, and  
23 use that if licenses beyond 60 are granted to  
24 determine whether you need to do another one-time

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1 inspection, or two-time inspection, or the existing  
2 one was adequate. So, that's a concern we have. I'm  
3 not exactly sure what the solution is, but we'd like  
4 to see it addressed.

5 I think the other concern I want to spend  
6 more time on are what we think are missed  
7 opportunities in the process for internal and  
8 external hazards. I'll start with the external  
9 hazards first. As I mentioned on the earlier panel,  
10 even though the NRC knew that seismic hazards were  
11 changed and increased in the Central and Eastern  
12 United States and implemented new regulations for  
13 reactors built in those areas, it didn't do anything  
14 about the 27 reactors currently operating.

15 As a consequence, North Anna Units 1 and  
16 2 were relicensed even though the NRC and the world  
17 knew about the increased seismic hazard that does  
18 apply to North Anna Unit 3. That's a disconnect that  
19 shouldn't exist.

20 The NRC in March of this year issued  
21 orders that require owners to go out and look at  
22 seismic and flooding issues, but that's a very narrow  
23 focus. Chapter 2 of the FSARs looks at transportation  
24 accidents, proximity of airports and other factors

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1 that may have changed in the past few decades. Rather  
2 than singling out the ones associated with last  
3 year's disaster, the NRC should take a broader view  
4 and look at all the Chapter 2 areas during license  
5 renewal to see if any changes are warranted that mean  
6 protection levels at the plant need to be changed,  
7 as well. Rather than waiting for accidents to bring  
8 about those looks, the NRC should take a proactive  
9 stance.

10 On the internal hazards, the example  
11 I'll use and it's one of many involves spent fuel  
12 storage and wet pools. If you look at Chapter 15  
13 Accident Analyses for most of the plants in the  
14 country, most if not all, the only licensing basis  
15 accident, design and licensing basis accident for  
16 spent fuel in pools is a fuel handling accident where  
17 you drop the irradiated bundle or you bang it against  
18 something and it causes fuel rods to fail and  
19 radioactive material to be released. There are no  
20 other accidents considered in the design and  
21 licensing basis, even though Fukushima and other  
22 things, and there's an AEOD report from 1997, I  
23 believe, that looked at a number of things that could  
24 cause cooling and/or water inventory to be lost from

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1 the spent fuel pool.

2 In March of this year, the NRC formed a  
3 task or a study group, homework group, some kind of  
4 group, to look at criticality of fuel in a spent fuel  
5 pool because Boraflex and other neutron absorbers  
6 used to protect -- guard against criticality in  
7 these overcrowded densely packed pools isn't lasting  
8 the way we thought it would. So, the worker around  
9 is to look at better way of neutron absorbers.

10 The proper solution should have been to  
11 revise the design and licensing basis, and when you  
12 went to crowding these things, overcrowding the  
13 pools, Pilgrim went from 800 fuel assemblies  
14 originally licensed in its spent fuel pool to  
15 something like 3,300 today. Increased the heat load,  
16 increased the inventory, increased the criticality  
17 challenge, but we didn't go back and change the  
18 design and licensing basis.

19 Just last month, the NRC issued revised  
20 Standard Technical Specifications for all the  
21 plants. For the BWR 4 Standard Technical  
22 Specifications if you look at Section 3.7.8, you  
23 don't even need water in the spent fuel pools unless  
24 you're moving irradiated fuel. If you determine the

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1 water level is not 23 feet above the fuel and you're  
2 moving fuel, all you've got to do is stop moving the  
3 bundle. You can drain the rest of the water out, you  
4 don't have to put it back. That's because the only  
5 design basis accident is a fuel handling accident  
6 where you've moving fuel and you bang it into  
7 something or you drop it.

8           There's other things that could cause  
9 damage to the fuel in that pool, but they're not  
10 included in the licensing basis. It should -- the  
11 license renewal process should be an opportunity to  
12 go back and look that we missed that. There's an  
13 opportunity to fix that, so we better manage. I'm not  
14 saying the licensees are going to drain the water in  
15 the spent fuel pools and replace it with kerosene or  
16 anything like that, but the same reason you have a  
17 technical specification on water level when you're  
18 moving fuel, you should have -- it's really a  
19 function of having irradiated fuel in the pool, not  
20 the fact that you move it around. If it were that  
21 simple, we wouldn't need Yucca Mountain. We'd just  
22 need a lot of super glue to glue the irradiated fuel  
23 down so it doesn't move, but that's not -- we're not  
24 managing the hazard in the right way.

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1           And I think the process -- the license  
2 renewal process should be an opportunity to go back  
3 and look at internal and external hazards, make sure  
4 we have the right design and licensing basis controls  
5 so that those risks are properly managed over the  
6 ensuing operation of the plant. Shame on us if we  
7 don't take advantage of those opportunities to  
8 identify those things, and just assume that we've  
9 been right.

10           One of the first supervisors I ever had  
11 said, "Assumptions are based on that you're doing it  
12 right initially, and nothing has changed that would  
13 mean that that's no longer the right way to do it.  
14 And are you willing to hang your hat on those two  
15 assumptions," and he convinced me early on that that  
16 is very -- I wasn't going to take on that  
17 responsibility on that assumption. So, I think that  
18 applies in this case, as well, and the license  
19 renewal process should account for those factors.  
20 Thank you.

21           MR. RAKOVAN: Okay. Thank you to our  
22 panelists. Unfortunately, thanks to our timing of  
23 this we've got a lot of good ideas that are out on  
24 the table at this point, but I think we're all

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1 interested in heading to a different kind of table  
2 and enjoy some lunch. So, we're actually pretty  
3 darned close to on time, so that's fairly impressive.  
4 We will get things started again at 1:00. We will get  
5 to allowing the panelists to kind of hash through  
6 some of these issues and, of course, involve the  
7 public. So, go off and enjoy lunch, and we'll see you  
8 at 1:00.

9 (Whereupon, the proceedings went off  
10 the record at 11:54 a.m., and went back on the record  
11 at 1:03 p.m.)

12 MR. RAKOVAN: Welcome back, everyone.  
13 I would like to thank those of you who did come back  
14 from lunch for coming back. We are going to pick  
15 right up where we left off on the agenda, allowing  
16 a discussion specifically on the safety aspects of  
17 subsequent license renewal.

18 We have our panel still up on the table.  
19 And I think that's at least to start out with. We  
20 would like to see the primary discussions, but, of  
21 course, those of you here in the room are more than  
22 welcome to jump up to the microphone. And we'll be  
23 checking the phone lines from time to time, although  
24 the phone lines were totally quiet in the morning and

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1 that's okay.

2 I am going to ask people to make sure  
3 that you do use a microphone and that you still  
4 project with your voice. A number of people we  
5 haven't had any problems with, but some people their  
6 voices just fall flat or don't really go. So give  
7 the microphone a chance to pick you up. So don't be  
8 shy. We would rather be able to hear you more than  
9 we need to than not if that made sense.

10 And also just keep in mind again that we  
11 are here to discuss these issues. We are not  
12 necessarily here to agree on these things, just kind  
13 of hash through some ideas. So be respectful of  
14 others and allow for the fact that other people might  
15 have different opinions than you.

16 So, with that, I'll hope that food coma  
17 isn't setting in from lunch. And I'll look to my  
18 panel to see if anybody wants to build upon  
19 somebody's statements. And it looks like Mr.  
20 Lochbaum would like to start. Dave?

21 MR. LOCHBAUM: Just hopefully a brief  
22 comment on the federal versus private research.  
23 It's not a complaint or a criticism, just a guiding  
24 principle. Several years ago, we were invited to be

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1 in a panel that the NRC formed in its Office of  
2 Research to look at research needs. And one of the  
3 things that that panel looked at was private research  
4 versus federal research. Sometimes research is  
5 best done in the private sector. And sometimes it's  
6 best done in the federal sector for various reasons.

7 I guess our guiding principle was if  
8 research would have been done by the federal  
9 government but wasn't, for whatever reason, the end  
10 product from that should be made as available as the  
11 federal government's report would have been. So  
12 EPRI or anybody else who does research that precludes  
13 the federal government from -- or if it's shared,  
14 then, again, that final product should be as publicly  
15 available as the NRC's own document would have been.

16 Thank you. I'm not saying it as a  
17 complaint. That's not the case. It's just that  
18 approach that we have from that research panel that  
19 we carried forward.

20 MR. RAKOVAN: Thanks, Dave.

21 Please?

22 MR. REISTER: I can make a brief comment  
23 on that. Richard Reister from the Department of  
24 Energy.

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1           We try to make all of our, the results  
2 of our, research publicly available. We have a  
3 website to get to through the Department of Energy  
4 Office of Nuclear Energy and on the RCRA sustained  
5 building program and we'll go to the depository for  
6 our technical reports. And if we do cost share with  
7 industry, that requirement of that is to also make  
8 the data publicly available.

9           Obviously we don't have any control over  
10 research that we don't pay for that the public  
11 element doesn't pay for, but we try to make all of  
12 this information available for anybody who seeks it.

13           MR. RAKOVAN: Please, Mr. Webster?

14           MR. WEBSTER: I guess I have a couple of  
15 questions on -- we have talked about an analysis of  
16 operating experience into the period of extended  
17 operation. I wonder two things. One is, how is  
18 predicted actually done in practice? And will we  
19 see public documents on that?

20           The second question is, on this issue of  
21 uncertainty, do the panelists think it is reasonable  
22 to think about where the 95 percent certainty  
23 compliance would be with CLB?

24           MR. RAKOVAN: Okay. Anybody want to

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1 comment on that, answer his questions, or address his  
2 questions?

3 MR. WEBSTER: First question is, how is  
4 predicted aging versus actual aging going so far?

5 MR. FALLIN: Well, so far it's going  
6 okay. I mean, we don't see -- we haven't had  
7 any -- considering chronologically, we are like  
8 three years into the oldest plants. We haven't seen  
9 anything that is or that we have predicted as really  
10 not much different than what we have seen that I know  
11 of anyway. And we share this information. We have  
12 our working group meetings.

13 MS. BRADY: This is Bennett Brady for  
14 the NRC.

15 I mentioned earlier that they are doing  
16 AMP effectiveness audits to look at how the aging  
17 management programs are done. I think that is a very  
18 good comment that maybe we should also go look back  
19 and see what analyses were required as part of the  
20 license renewal application and how they have held  
21 true.

22 Things that were made as a comment, NRC  
23 gets results and does look at what the results are.  
24 But they are probably analyses that are part of the

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1 SER that don't get -- it's a good comment. Thank  
2 you.

3 MS. BERNHOFT: One thing I'll say  
4 on -- one of the things that we do from an EPRI  
5 standpoint I said we do a lot of making sure that we  
6 engage the industry and like the cables. We have the  
7 active cable users' group for the materials issues.  
8 We have our material reliability project, which  
9 covers the PWRs. For the BWRs, we had the BWR vessel  
10 integrity project, which is extended to cover almost  
11 all of the primary system materials for the BWRs.  
12 They are very active through our meetings and our  
13 industry advisory groups.

14 We are constantly reflecting OE. The  
15 first part of all meetings is an OE round robin with  
16 all of our membership, internationally and U.S.

17 So the short answer to your question  
18 right now is I don't think we're seeing anything with  
19 this collective group of plants that have entered  
20 this renewed period that would trouble us to say that  
21 we didn't capture it right for what we did to set up  
22 the aging management programs for this extended  
23 period of operation.

24 With that being said, it behooves us to

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1 be static with this look at things. And that's why  
2 it's really important that we continue with this  
3 review of the amps that they're serving, continuing  
4 to serve as well.

5 MR. WEBSTER: Well, on the certainty  
6 point, the certainty components with CLB?

7 MS. BRADY: This is Bennett Brady, NRC  
8 again.

9 My background is in mathematics and  
10 statistics. So I think that is a very interesting  
11 question, should be considered. Thank you.

12 MR. MEDOFF: This is Jim Medoff of the  
13 staff.

14 I would just like to ask Mr. Webster to  
15 make a clarification here. Are you just talking  
16 about the 95 percent compliance with the CLB  
17 referring to the aging management programs or the  
18 time-laden aging analyses that are credited for  
19 managing aging effects of license renewal  
20 applications or are you talking about the CLB as a  
21 whole, including Part 50 space or current operating  
22 space?

23 MR. WEBSTER: Well, yes. I'm talking  
24 about, I mean, most of those criteria that go into

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1 the license renewal come from the part 50 space.  
2 Those are the acceptance criteria. But let's start  
3 off by just talking about the part 54 space and  
4 talking about individual acceptance criteria, which  
5 are incorporated into the CLB.

6 MR. MEDOFF: This gets a little bit into  
7 Mr. Lochbaum's comments, which were -- you raised the  
8 matter of the Ginna nickel alloy program -- whether,  
9 you know --

10 MR. HOLIAN: Jim, make sure you are  
11 speaking right into the microphone.

12 MR. MEDOFF: -- and whether, you know,  
13 that program would be good enough today and whether  
14 they should be updating it.

15 And one of the things I need to say is  
16 there is not always a fine line between what they need  
17 to do in the license renewal application versus what  
18 they need to solve as part of the current operating  
19 space requirements. So a lot of the programs that  
20 we invoke, current operating space programs, for,  
21 they have to do it regardless, especially, you know,  
22 if there is a regulation or order or a tech spec  
23 requirement at the time that they have to do them,  
24 even if they don't credit them for aging management.

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1           That is something that is really  
2 important to point out because, even if they  
3 don't -- for Ginna, let's say we have developed  
4 augmented inspection rules for nickel alloy  
5 components. So, even if at the time of the license  
6 renewal application review, those weren't in place  
7 because those rules have been developed on analysis  
8 in the Code of Federal Regulations, they have to go  
9 forward on that basis of augmented inspection  
10 requirements for the nickel alloy program  
11 regardless. And if they are a responsible licensee,  
12 they should update their aging management program to  
13 work those into the program as an update.

14           They don't necessarily have to. It  
15 doesn't stop them when being required to take those  
16 new requirements that we have developed in the codes  
17 and standards rule.

18           There's not always a fine line between  
19 what is being done in part 50 space versus what needs  
20 to be done for license renewal. But quite often the  
21 aging management programs, the TLAAs that we credit  
22 for aging management are based on existing  
23 requirements that carry forward. So that's one  
24 thing I need to point out. And that's really

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1 important.

2 So from your comment, I am wondering if  
3 you are expecting us to go back and do every little  
4 aspect of the CLB, which would be reviewed under  
5 other current, you know --

6 MR. WEBSTER: I'm talking about the  
7 programs. I'm talking about AMP programs. For  
8 license renewal, for the programs that you approve  
9 as effective on the license renewal, what I'm  
10 suggesting is that there should be a guideline. The  
11 program should be adequate to ensure 95 percent  
12 certainty of compliance with that aspect of the CLB.

13 As far as I know, there's no guidance out  
14 there at all at the moment on the degree of certainty  
15 required. See, I don't understand how you would  
16 design a program, an aging management program, if you  
17 don't know the degree of certainty to which it should  
18 ensure compliance.

19 How do you figure out what the spatial  
20 scope should be? And how do you figure out what the  
21 temporal repeat period -- it goes back to Dave's  
22 one-time inspection thing. If you don't know what  
23 certainty of compliance you are aiming for, I don't  
24 think you can derive a frequency or a spatial scope.

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1 MR. HOLIAN: And Mr. Collins had a  
2 comment on that. Brian Holian also commenting on  
3 this.

4 I just want to make sure Jim Medoff from  
5 the staff was answering with an alloy-600 example.  
6 Some of these things are best served with an example  
7 by just the words.

8 I'm having trouble with a 95 percent  
9 confidence of the CLB myself. I'm having a problem  
10 with that premise. I mean, I understand the  
11 criticism of the NRC and the industry that the CLB  
12 is often vague or nebulous. Just what is it? I  
13 mean, it is defined in the regulation in part 54 and  
14 not in part 50. So they finally put the definition  
15 somewhere on what it should involve.

16 But I understand from interested  
17 members of the public that that is often hard to  
18 gather everything, all of the letters and bulletins.  
19 But when you are talking confidence in the CLB and  
20 you use a percentage, often times in our SERs, you  
21 know, there will be an 80 percent confidence level  
22 on a certain technical issue, on the uncertainty  
23 analyses, you know, in particular. And so I just  
24 want to make sure we're not talking past each other

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1 on uncertainty analysis for calculations or a more  
2 nebulous --

3 MR. WEBSTER: No. I mean, I'm  
4 being -- let's take an example of pipe wall  
5 thickness. You want to maintain you have an  
6 acceptance criteria, which I think derives from the  
7 CLB with a certain amount of minimum wall thickness.  
8 It's incorporated in the CLB.

9 MR. HOLIAN: Yes.

10 MR. WEBSTER: What certainty do you  
11 want to have that that wall thickness will not  
12 be -- if the pipe has a small area of wall thickness  
13 that's below that criteria, what certainty detection  
14 do you need to have?

15 I would suggest to you that 95 percent  
16 certainty detection is a good thing to aim for. And  
17 that should be incorporated into the design of the  
18 aging management program.

19 MR. MEDOFF: He's starting to clear it  
20 up. He's getting into things underneath the rule.  
21 What gives you the confidence at the beginning of the  
22 rule as above they have to comply with the --

23 MR. RAKOVAN: Yes. That's right.

24 MR. WEBSTER: Oh, no, no, no. I'm

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1 talking about the CLB criteria, the acceptance  
2 criteria that are derived from the CLB.

3 And, by the way, it's not just that we  
4 can't get information. Even the staff gets it wrong  
5 periodically on what the CLB is.

6 MR. RAKOVAN: Yes.

7 MR. WEBSTER: I've been to a whole  
8 proceeding where the staff insisted that a certain  
9 criteria is not in the CLB when the licensing boards  
10 have found that it was. So it's not the lack of  
11 information. It's the fact that the definition is  
12 too fuzzy for adequate definition, for adequate  
13 translation of the words into the numbers.

14 MS. BRADY: Sylvia, would you put up the  
15 backup slide on the current licensing bases  
16 definition?

17 MR. WEBSTER: Before we move, can we  
18 just stick with this certainty point for a little  
19 bit, which is what level of certainty do you think  
20 when you -- let's say the agency reviews an AMP.  
21 What level of certainty detection is adequate as far  
22 as you're concerned right now?

23 MR. RAKOVAN: If you're going to  
24 answer, please use a mike.

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1 MR. MEDOFF: I think we're going to  
2 listen to your comments on uncertainty. We have  
3 gotten to the facts before, but I don't think  
4 we -- I'm not sure that we have come to a foregone  
5 conclusion with the group of what uncertainty we  
6 would need here.

7 MR. WEBSTER: Well, I can tell you I  
8 think it's appalling you have already licensed 71  
9 reactors without deciding this issue.

10 MS. LAMPERT: And this is Mary Lampert.  
11 This goes back to my initial comment that we have  
12 reasonable assurance, preponderance of the  
13 evidence.

14 And I asked a question, what level?  
15 What level gives reasonable assurance? Ninety-five  
16 percent? Fifty-one percent? Fifty-three percent?  
17 We've got to have a standard. Otherwise it's just  
18 a sop. And it gets rid of us.

19 MR. MEDOFF: We'll look into it. We'll  
20 take it back. I can't commit to any number at this  
21 point.

22 MR. HOLIAN: We can come back to that.  
23 This is Brian Holian.

24 I have one other comment for Ms.

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1 Bernhoft at EPRI, really on cables. And I think  
2 we're going to circle back to this anyway, but I just  
3 want to open it up again.

4 On cable aging, in particular, has EPRI  
5 looked out? I mean, on predictive cabling, you  
6 mentioned earlier in your introductory comments that  
7 cable replacements is a possibility.

8 I think there was an article by NEI just  
9 within the last week. I'm not sure if it was an NEI  
10 author, but it was in the press about "Hey, these  
11 plants are completely new now. And we can replace  
12 everything." And it's awful hard to replace  
13 concrete and even cabling. You know, so I'll be  
14 interested in exploring that a little bit more:  
15 one, from an industry side.

16 You know, Mike Fallin, whether you have  
17 done cable replacements, I think that is an area  
18 where the NRC has not -- you know, there is not a  
19 criteria for us in our SERs or even in the  
20 applications for people to describe how much of their  
21 buried piping has been replaced, how much cabling has  
22 been replaced, how many of your relays have been  
23 replaced.

24 And so that's one comment I have for the

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1 industry, you know, the need to beef up and back up  
2 those statements that, oh, this is a relatively new  
3 plant.

4 It gets back to Ms. Lampert's question  
5 about you don't want to have a 40-year-old toaster.  
6 Okay? So that comment I think is worth exploring and  
7 worth all of us, even outside of today, to be looking  
8 at application criteria so the public can get a good  
9 idea as plants come in how much of this plant really  
10 has been replaced and from there.

11 Back to the question for you on EPRI,  
12 specifically on cable work that has been done. You  
13 know, I haven't seen the studies. I still see  
14 studies that say we have questions maybe about the  
15 40 to 60-year life on some cables. Some of these  
16 reports are raising questions on it.

17 So I'm still interested from an NRC  
18 perspective and research perspective on, you know,  
19 do you have a date for standard cable used in the  
20 industry that has shown in a coal plant that at 70  
21 years just the insulation itself has broken down?  
22 We don't hear that data too often.

23 Could you comment on that?

24 MS. BERNHOFT: Yes. I can take a

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1 little deeper dive on cables. Right now when we look  
2 at the fleet of nuclear power plants in the United  
3 States, you made a comment that said standard cables.  
4 There's probably about -- the bugaboo on cables is  
5 the insulation material. It's also how they're  
6 installed and where they're installed. Those are  
7 the three things we found.

8 We have done now -- like I said, EPRI has  
9 been doing about 23 years worth of work on cable, the  
10 cable aging management systems. We have done some  
11 walk-downs with cables. We have also identified and  
12 developed at least two techniques on how to monitor  
13 cable performance. That's the tan delta test and  
14 the Withstand test. If you're interested in looking  
15 those up, Withstand was done with DOE.

16 So we have those guidelines out there.  
17 We're using INPO to help us with implementation of  
18 those guidelines. A number of plants have got  
19 through at least their first set of walk-downs on  
20 medium-voltage cables. And some of them are even  
21 going into their second set of walk-downs.

22 So what that gives us the ability is, you  
23 know, you have more than one data point. So once you  
24 start getting at least two data points, it does start

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1 giving you some basis for comparison.

2           What we're finding right now from the  
3 data is there's really five major classifications of  
4 the insulation material we can look at. The  
5 cross-linked polyethylene is probably our weakest  
6 performer. Some of the EPRs are actually  
7 performing. You know, some of them have been in  
8 service 30-40 years. And comparing two data points  
9 to each other, we're seeing no change in dielectric  
10 properties, all those different cable jacket  
11 materials.

12           So we're getting some actual plant data  
13 on those with those two types of monitoring  
14 techniques that were there. What you're really  
15 asking I think is, what are we doing to try and  
16 predict remaining useful life? I mean, that's the  
17 question. That's the question for every operator  
18 before they talk about what they want to do.

19           We are working right now on a couple of  
20 things. And with the nuclear cables, there's a  
21 temperature consideration. There's also the  
22 irradiation consideration. So we actually have a  
23 program in place right now where we're looking at  
24 exposing some higher temperatures, especially what

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1 you're seeing in certain areas of containment. And  
2 then we're working with DOE through Sandia National  
3 Labs right now on devising some radiation testing as  
4 well.

5           So we'll have -- the test protocols will  
6 be developed to show basically unexposed cables.  
7 And then we'll design some data points along the way  
8 that will show us what happens with the thermal  
9 effects and the radiation effects. So we're working  
10 on designing that research right now through DOE the  
11 same at Sandia.

12           But, like I said, from what we're  
13 getting right now just from plant -- the EPR, which  
14 is the predominant cable that we have installed in  
15 the plants, is performing well in the environment.  
16 Now, the question, of course, is we do have the wedded  
17 cable situation. And then we are seeing situations,  
18 too, where because of installation issues, we're  
19 seeing like where maybe a license isn't installed  
20 correctly. And this goes back to I think crediting  
21 at least what the aging management programs are  
22 doing.

23           They may or may not have been inspected  
24 but went forward putting out these aging management

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1 programs. But we are detecting them through these  
2 aging management programs. So I think that's a  
3 benefit that is coming to the industry with that  
4 right now.

5 MS. LAMPERT: This is Mary Lampert.

6 I have a contention on this issue. And  
7 in the hearing in front of the joint legislature  
8 committee April 6, 2011, Entergy admitted, contrary  
9 to their previous testimony, that there were no tests  
10 by which you could determine the degradation of the  
11 buried electric cables.

12 And so when you are talking about these  
13 walk-downs, what are you using to determine the  
14 integrity of these cables? I mean, if the lights go  
15 on, so to speak, I suppose that could be an indicator  
16 but doesn't mean it's going to go on ten minutes  
17 later, carry the electricity to allow that, in other  
18 words.

19 So question number one, is there  
20 something different in the past year? Do you have  
21 the capability of determining?

22 And, question number two, what about  
23 low-voltage cables?

24 MS. BERNHOFT: Okay. I'll answer

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1 number two. That will be a shorter answer. As far  
2 as from a low-voltage cable standpoint, we recently  
3 did publish the guidelines in the low-voltage cable.  
4 So those programs will be starting off. I was  
5 actually at a cable users' group meeting that we had  
6 last week talking about the implementation or  
7 starting to set the protocols to follow those  
8 guidelines.

9 With regard to your first question I  
10 think you posed, are there testing techniques that  
11 can tell me the condition of the cable? Is that a  
12 way to characterize your question?

13 MS. LAMPERT: Yes, for the level of  
14 degradation due to corrosion of these very cables,  
15 in particular, in moisture.

16 MS. BERNHOFT: Okay. What you get in  
17 moisture is you get what we call a treeing effect.

18 MS. LAMPERT: Yes.

19 MS. BERNHOFT: Okay. So you're  
20 familiar with that concept?

21 MS. LAMPERT: Yes.

22 MS. BERNHOFT: And so what that will  
23 give you is that will give you a breakdown of what  
24 the cable -- cable will short to ground someplace

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1 else before it gets to the ultimate end-user.

2           So we do have a couple of tests that we  
3 are, you know, we're in the earlier phases with right  
4 now. One is called a tan delta technique, and one  
5 is called a Withstand test. You're welcome to look  
6 those up. Tan delta was created by EPRI. And  
7 Withstand was created mostly by DOE. And what  
8 they'll do is they'll give you a measure of dialectic  
9 breakdown.

10           The best way to determine your cable  
11 performance, though, is that you need to do these  
12 tests at more than one point. They're not going to  
13 at one point give you a go/no go. So what you need  
14 to do is you need to be able to be repeating these  
15 tests on some periodicity to be able to do condition  
16 monitoring of your cable systems.

17           MS. LAMPERT: What time frame do you  
18 have in mind?

19           MS. BERNHOFT: What we're doing, we're  
20 working with the industry right now and putting out  
21 the guidelines. A lot of it is going to matter if  
22 you know if they're in a situation where they're  
23 potentially in a wedded environment and determine  
24 frequency based on that. If they're in a

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1 high-temperature frequency --

2 MS. LAMPERT: Is this going to be  
3 transferred to the aging management program and go  
4 back to reactors that have been licensed?

5 MS. BERNHOFT: The second part of the  
6 question I can't answer. The first part --

7 MS. LAMPERT: What about NRC?

8 MS. BERNHOFT: Right. The first part  
9 of the question is, you know, through our members.  
10 And we make that data available. And we have  
11 published those guidelines.

12 MS. LAMPERT: Yes, but guidelines -- I  
13 like something with a little more heft, like a  
14 requirement.

15 MS. BERNHOFT: I'll pose that question  
16 to the NRC.

17 MS. LAMPERT: Thank you very much for  
18 your answer, though.

19 MR. RAKOVAN: Mr. Lochbaum?

20 MR. LOCHBAUM: I profess to still being  
21 confused about the applicability of the revised NRC  
22 guidance for license renewal. I'm hearing that the  
23 requirements for Point Beach and Ginna and other  
24 reactors are the same and the fact that the guidance

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1 change doesn't really matter because the previous  
2 reactors are committed to it by other means.

3 I may have picked a bad example. The  
4 changes that the NRC made to its guidance have been  
5 extensive. They start out with Revision 1 of GALL  
6 and the standard review plan for license renewal.  
7 They're up to Revision 2 now. It's far more than the  
8 alloy-600 program, many, many, many changes.

9 If the existing reactors already had a  
10 commitment to do that, then it seems like the NRC  
11 violated 50.109 by changing its guidance, upping its  
12 game for the later applicants. If that's not the  
13 case, the existing requirements didn't cover those  
14 reactors and those changes were, therefore,  
15 necessary and the NRC didn't violate federal laws and  
16 50.109, then it seems like the old reactors, the  
17 pre-change reactors, don't have a commitment  
18 requiring them to do all of those nice things that  
19 are required for safety as 50.109.

20 So I don't see how the NRC can have it  
21 both ways. Either you've violated one law by  
22 requiring standards that weren't necessary for  
23 safety and upping the game from the people who were  
24 late in the line or you're cheating the people who

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1 live around the plants that were in the front of the  
2 line, where they have all of these new information  
3 on how to better manage aging and you're not making  
4 the plants that were early in the line required to  
5 do those things.

6 They may have a responsibility, might  
7 have a neat desire, but history has shown that the  
8 industry doesn't always -- they don't follow rules,  
9 let alone guidance and notions and suggestions. So  
10 I have absolutely no -- this confidence level, it's  
11 less than zero if it's possible that that's adequate.

12 So, again, I'm completely confused how  
13 you could know that there's a problem sufficient  
14 enough to change your guidance and do nothing about  
15 the plants you know don't have a legal requirement  
16 to meet it.

17 MR. WEBSTER: Can I throw in a different  
18 example? I think perhaps another example might be  
19 the through-wall corrosion on the, containment, the  
20 iron containment liners in PWRs, where I think Beaver  
21 Valley was the first example. It wasn't actually  
22 the first example. It was the first example in  
23 license renewal space, I mean, noticing that there  
24 is operational experience of backside corrosion that

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1 obviously wouldn't be detected by visual inspection.  
2 And I think subsequently that the guidance was  
3 changed to require both UT as well as visual.

4 Did you go back and require that for the  
5 previous -- to the reactors that have already been  
6 licensed?

7 MR. HOLIAN: Brian Holian, Director of  
8 License Renewal.

9 We touched on this this morning during  
10 process. And I figured we'd come back to it again  
11 in safety. And it's appropriate to do so.

12 There are two ways of -- you know, the  
13 good part about license renewal is part 50 and part  
14 54 overlap. So you hear that from us. And some of  
15 these programs overlap with part 50. And the one  
16 that overlaps is use of operating experience,  
17 talking in the big roles, not just talking on the PTS  
18 rule, pressurized thermal shock, you know, that. We  
19 highlight that in our license renewal reviews, but  
20 we also have a rule that says that the vessel fluence  
21 will be calculated.

22 And these questions have just come up on  
23 the liner, alloy-600. It's a good example, Mr.  
24 Lochbaum. I mean, that's a good one. There are

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1 buried piping issues. Last year's issue on buried  
2 piping, original plants on GALL, rev. 0 or GALL, rev.  
3 1, where we -- you know, as part of our aging  
4 management program, with operating experience at  
5 that time, the staff said, "Dig up one pipe, you know,  
6 in the ten years prior to license renewal."

7           If you look at the SERs for the last 10  
8 plants or 15 or 20 that we've done and you see a wide  
9 range of requirements on digging up. So let me pick  
10 on that one. We can go to any example, but I pick  
11 up buried piping because that one is also clear.  
12 I've answered that before.

13           The industry in working through a  
14 license on a later plant, it is a higher confidence  
15 level that we're getting at, a buried piping issue.  
16 Ms. Lampert picks up electrical cabling, a similar  
17 issue, something that you can't see that we want  
18 confidence of if you want to say it.

19           In the last ten years, the number of  
20 instances of buried piping leaks have gone up. And,  
21 accordingly, we are requiring them to increase their  
22 inspection frequencies? Should that or would that  
23 go back down?

24           You know, I envision a time when GALL,

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1 rev. 3 might say, "Oh, operating experience has come  
2 back down now. Maybe plants have replaced all that  
3 buried piping. One plant is digging it up and  
4 putting it above ground."

5 So in an operating reactor viewpoint, as  
6 new aging issues are identified, one, you expect  
7 utilities to do something about them so they can get  
8 ahead of them. And you would expect and hope the  
9 regulator responds.

10 So what you are seeing in GALL I think  
11 is healthy. And, Mr. Lochbaum, you mentioned that  
12 this morning. That is the good side of it.  
13 However, the side you're picking up now is, are you  
14 going after the older plants?

15 And you're not the only one who asks  
16 that. We ask that of ourselves. The ACRS asks that  
17 of us routinely, "Have you gone through the plants?"  
18 And there are a couple of ways to go about it. And  
19 we're trying all of them. I'll just say that.

20 One is to take them to the backfit  
21 process. Clearly I have to fit the backfit role to  
22 go ahead. And we're constrained by that. And it  
23 takes a while for us to work some of those through  
24 that process.

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1           But, you know, Allen Hiser, you know,  
2 we've got a couple -- I think of the one where we  
3 started the work on it was -- neutron absorbers is  
4 another issue. And these are, all of these issues  
5 are, good examples. We used them at a Commission  
6 meeting: a picture of neutron absorbers.

7           So the staff will study that effort for  
8 a while and see if it looks like we can force that  
9 on the cost-benefit basis on a backfit. That takes  
10 the staff a longer process, a longer way to do, but  
11 I'm still for using that process. It's an existing  
12 tool that the NRC has. I would say we often don't  
13 challenge ourselves to do those analyses as often as  
14 we should. That's my personal opinion. You know,  
15 it's a lot of work to go through that, but it's a way  
16 to go.

17           And I think what we have seen is that you  
18 are not successful to overcome that cost-benefit.  
19 The staff is. So that hurdle is by itself. And I  
20 think there has been some areas of Fukushima here  
21 lately and economic consequences that we are trying  
22 to re-look at some of those cost-benefit statistics  
23 there.

24           So let me just touch on the other two,

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1 Mr. Lochbaum, and then go to you. So backfit is an  
2 area, you know. So I think there are areas we can  
3 improve. We can make backfit analyses. I know on  
4 the Fukushima lessons learned, they are raising up,  
5 you know, should land contamination or issues like  
6 that be more particular to plants, instead of using  
7 a generic number?

8           So those discussions are all good and  
9 hopefully will help that process. The way I  
10 mentioned it earlier is I am trying to push the  
11 regions to do it and through us, through inspection  
12 on a more real-time basis. I can get to them. I can  
13 get to plants. I can get to inspectors. They can  
14 identify a plant.

15           I used Calvert Cliffs this morning. I  
16 go back to that one a lot, Mr. Fallin, your old plant  
17 or your current plant. That's the first one that's  
18 been licensed. It's not the oldest plant, but it was  
19 the first one relicensed. I'm sorry.

20           But I bring that up, and I say, you know,  
21 under the requirements, has Calvert Cliffs -- do they  
22 have operating experience that would indicate to  
23 them that they should be digging up more buried  
24 piping than they were committed to on their license

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1 renewal SER?

2           And there's a way for it when the  
3 inspector gets out there and he can do it under a  
4 maintenance rule inspection, he can do it under a  
5 license renewal inspection prior to them going into  
6 the extended period. So we do have some tools to get  
7 there through the inspection area. And they can  
8 just say, "Your buried piping leak a year and a half  
9 ago I am out here to inspect. I look back at your  
10 operating experience over the last five years. What  
11 did you do about this for the safety significance and  
12 bring them up to the guidance that the NRC has,  
13 whether it's our standard review plan, the latest  
14 rev. of GALL, and give them a finding for not living  
15 with the operating experience built back into the  
16 effectiveness of corrective action that they need to  
17 do so we can give them a corrective action finding  
18 for that?"

19           That's an area that I am stressing  
20 through our staff and with the regional folks and to  
21 use that and demonstrate those examples to the plant.

22           And, you know, the third way to do it is  
23 Ms. Lampert wanted me to read that license condition  
24 earlier that I read. It's in a public meeting slide

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1 where I use that with the industry. If I can get that  
2 into the rule, something like that -- and, Ms.  
3 Lampert, it's something like the maintenance rule,  
4 where you make a plant do an effectiveness review.

5 MS. LAMPERT: Email it to me.

6 MR. HOLIAN: Yes, we can do that.

7 And it's patterned after the  
8 maintenance rule-type action, where the plant then  
9 does an effectiveness review of their aging  
10 management. And then we're able to come in and just  
11 review that.

12 So that's the third way to do that. And  
13 so as I look at --

14 MS. LAMPERT: Self-regulation?

15 MR. HOLIAN: Would that be a  
16 regulation? Yes. One idea is to put in a license  
17 condition. You know, I have a standard condition  
18 when I issue a license. And right now we put in a  
19 couple of standard license conditions that you'll  
20 live by your commitments. I would add another, you  
21 know, standard license condition for a plant to do  
22 that. So it would have a heavier weight, as you  
23 called it, Ms. Lampert, a bigger hook, as we say it  
24 sometimes in the inspection regime.

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1                   Let me pause with a few ways there and,  
2 staff, if you want to add on but Mr. Lochbaum --

3                   MS. LAMPERT: May I just ask a question?  
4 You mentioned the backfit, but then I see a problem,  
5 which we'll get into later. And also Commissioner  
6 Apostolakis recognized that the tools that are used  
7 to do the cost-benefit analysis, bottom line,  
8 they're so outdated and inadequate that you are never  
9 going to get it as cost-beneficial to be done.

10                  MR. HOLIAN: Yes.

11                  MS. LAMPERT: And so that is a waste of  
12 time.

13                  MR. HOLIAN: Yes.

14                  MS. LAMPERT: The last one you talked  
15 about, it depends upon the inspection by the licensee  
16 that really doesn't have a motive to spend the money,  
17 particularly the merging plants. So that doesn't  
18 help me either.

19                  So I think the bottom line is the  
20 response to Dave's question and to Richard's is no.

21                  MR. HOLIAN: Yes. Well, the --

22                  MS. LAMPERT: There's nothing there  
23 that's definitive now. Is that correct?

24                  MR. HOLIAN: Well, I would say the

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1 inspection for operating experience at a plant, the  
2 overlap with part 50 would be the way to do it now.  
3 If it's safety raises with the operating experience  
4 now and we can inspect it and say, "You have a  
5 condition at your plant that you have not corrected,"  
6 that is the way we would go now, Ms. Lampert.

7 But the other one that you said would not  
8 be effective I would still say it would be effective.  
9 If I had a license condition, you're right. It would  
10 be a burden on the utility to do an effectiveness  
11 review of the aging management program, but that  
12 would be inspectable by the NRC. And it's kind of  
13 a clearer way to assess or inspect their assessment.

14 But Mr. Lochbaum was going. Go ahead.

15 MR. LOCHBAUM: Yes. On the first  
16 point, you talked about the backfit struggle they go  
17 through. I think, at least in my mind, I think the  
18 staff is making that a higher hurdle than it needs  
19 to be because, as I understand 50.109, the backfit  
20 rule, and 50.100, I think those 2 rules should work  
21 hand in hand.

22 On 50.109, you really can't revise  
23 regulatory guidance like the standard review plan  
24 for license renewal in GALL, without doing it to

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1 benefit saying that it is needed for safety to  
2 satisfy 50.109. So once you have done that, 50.100  
3 says any factor becomes known after a plant has been  
4 licensed or relicensed. It would have prevented it  
5 from being licensed or relicensed in the first place.  
6 The NRC has the wherewithal to go back and make the  
7 licensees meet the requirement.

8 So having done 50.109, satisfied that  
9 that requirement is needed for safety and,  
10 therefore, justify the change to the standard review  
11 plan, you already have answered the question about  
12 the older plants because you wouldn't have been able  
13 to do it for the region to the guidance unless you  
14 satisfied 109. So you already have that to apply  
15 backwards, the rear-view mirror.

16 The concerns we have about the second  
17 one, the inspection module, please, --

18 MR. HOLIAN: Yes.

19 MR. LOCHBAUM: -- that relies on some  
20 failure that's not predictive. It's maybe least  
21 lagging they're not doing it all, but if the effort  
22 is if you haven't had any failures but you're not  
23 doing inspections at plants late in the license  
24 renewal queue are doing, you won't have any data

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1 because you're not doing the inspections. You're  
2 not finding problems that are there and getting  
3 worse. So that's not as good as the steps that you  
4 have taken for the plants in line.

5 And I don't think it's fair to the  
6 American public to run the plants early in line for  
7 them to get second or third shift. You've already  
8 identified what is needed for plants late in line.  
9 And you know that the plants early in line aren't  
10 getting that. And I don't think that lower standard  
11 is fair to those people.

12 MR. HOLIAN: Go ahead. Thank you.

13 MS. LAMPERT: And they're older, those  
14 earlier ones. So they're more susceptible  
15 probably.

16 DR. HISER: Yes. This is Allen Hiser  
17 from License Renewal.

18 A couple of things. The license  
19 renewal guidance is not subject to 50.109. They're  
20 perspective documents. They're not backfit on  
21 plants that are licenses or license applications  
22 in-house and not on those that have already been  
23 renewed.

24 Now, the technical positions we tend to

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1 apply those to the plants that are in-house  
2 currently. Currently the guidance in the early  
3 guidance documents are not requirements. They  
4 don't have to do them to get a renewed license, but  
5 it's staff guidance that does apply to plants yet to  
6 come in for license renewal.

7 MR. LOCHBAUM: So does that mean if I'm  
8 the first plant relicensed and you can't make the  
9 50.109 argument for revision 2 and you come in and  
10 find that I don't meet -- I'm going to say that -- you  
11 basically told me I don't have to meet this  
12 requirement because you can't apply it to me.

13 DR. HISER: You don't have to do what  
14 the guidance in the GALL report or the SRP suggests  
15 is one approach to do it. However, you have to deal  
16 with the operating experience that goes into the  
17 development of the positions in the GALL report and  
18 the SRP. And you need to have appropriate arguments  
19 as to why that operating experience either is not  
20 relevant to you and, therefore, you didn't make  
21 changes to your programs or you considered it and  
22 here are the changes you have made in response to  
23 that. You may get a different result from your  
24 analysis.

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1           So you may implement a program different  
2           from what GALL will tell you is one way to do it, but  
3           you at least have to address it. And I think that's  
4           what Brian's getting to with the --

5           MR. HOLIAN: Yes. That's the nice part  
6           about license renewal is you are right, Dave. When  
7           I get smarter, I'll call it that or even in license  
8           renewal, you are trying to be a little more  
9           predictive. I agree with you, not smarter but more  
10          aware of operating experience. But you are trying  
11          to be a little more predictive.

12          In other words, I am trying -- if I hear  
13          from the industry, if Mike Fallin will speak up,  
14          he'll tell me, you know, "Brian, yeah. We went ahead  
15          and committed to do 17 buried pipe inspections on  
16          this plant. And, you know, we satisfied your  
17          inspector." And they'll tell us what we still  
18          think. We're digging up too much.

19          And sometimes in public meetings,  
20          they'll say, "And it's a detriment to safety because  
21          you have us digging up one. And we might puncture  
22          that pipe." So we've wasted the money to dig it.  
23          And then when we get down there, we might, you know,  
24          hurt the system and could do some damage.

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1           So, you know, that's an industry  
2 perspective coming back on that. And those  
3 discussions they hold with us in public forums and  
4 come back to us on the guidance. You know, we're  
5 trying to be as responsive to the operating  
6 experience and as predictive as we can be.

7           I just wanted to get that out. Go  
8 ahead, Melanie.

9           MS. GALLOWAY: I wanted to make two  
10 comments. First is on this question 50.109. The  
11 reason that 50.109, the backfit rule, doesn't apply  
12 to the NRC's new guidance that is put out for future  
13 license applicants is because the license renewal  
14 rule is a voluntary rule. And so it's up to an  
15 individual applicant as to whether or not they want  
16 to apply knowing that if they do apply, they will have  
17 to take into account our most recent guidance  
18 documents.

19           The other point I wanted to make has to  
20 do with operating experience and plants that have  
21 already been license renewed, following up on some  
22 of the comments Brian has made. We have always  
23 relied on inspection as a way to ensure that plants  
24 are following our guidance and incorporating what

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1 they need to incorporate to follow the rule in terms  
2 of effectiveness over aging management. And so  
3 we're doing more of that. And we're making sure that  
4 as plants are in the PEO, that we're communicating  
5 effectively for regions on the types of things that  
6 they should be looking for.

7 We have also recently put out a new ISG,  
8 an interim staff guidance, document to clarify what  
9 our expectations are for operating experience for  
10 applicants. And in doing that, we have talked  
11 several times about the fact that when we go into  
12 second renewals, we are going to be looking very hard  
13 at operating experience and how plants have used that  
14 to ensure that they are maintaining the  
15 effectiveness of their aging management programs.

16 So while that new guidance document  
17 doesn't require that already licensed plants adhere  
18 to the guidance in that ISG, our expectation is that  
19 it will be to the advantage of all plants to adhere  
20 to that guidance if they are looking at a second  
21 renewal because we are going to be looking at  
22 operating experience in a much more in-depth and  
23 boarder area because there will be many more years  
24 of operating experience to look at that will be

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1 brought to bear in terms of a longer operating  
2 period. So I just wanted to provide that  
3 clarification and hope it helps a little bit.

4 MR. HOLIAN: Go ahead. Mr. Webster is  
5 going first, Jim.

6 MR. WEBSTER: I have a couple of things.  
7 I mean, one is, you know, you invited me. I asked  
8 the question I have this unexpected aging. I guess  
9 I knew the answer already, which is not that we  
10 haven't seen the effect of aging at all. It's that,  
11 you know, the week after Oyster Creek we relicensed,  
12 we had a big tritium leak there, --

13 MR. HOLIAN: Yes.

14 MR. WEBSTER: -- totally unpredicted by  
15 aging management programs. We then had corrosion in  
16 the containment, again where the aging management  
17 programs had predicted no corrosion.

18 So I am disturbed to some extent that the  
19 industry's attempt to review operating experience  
20 hasn't picked up these deviations. I'm sure there  
21 are a lot more. But if you haven't picked those up  
22 in your review, there is something wrong with your  
23 review.

24 The second thing, I hope the operating

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1 experience you are looking at is cross- plant. I  
2 noticed that there's a tendency to look --

3 MR. HOLIAN: Yes.

4 MR. WEBSTER: -- plant by plant.

5 MR. HOLIAN: Yes. No. It is. Just  
6 to quickly answer that, we require plant-specific  
7 and then generic for that type.

8 MR. WEBSTER: Okay. And then the final  
9 thing, I think, you know, one danger of emphasizing  
10 operating experience is, of course, I already found  
11 the tendency, though, of don't look, don't find. If  
12 you don't inspect a component, you don't find any  
13 problems.

14 MR. HOLIAN: Yes. Thank you. And  
15 this is the safety session. I missed part of it  
16 right before lunch, but I would hope that this  
17 session or comments on our aging management  
18 programs, I hope as we enter these discussions, are  
19 along that line.

20 I mean, I heard the comments this  
21 morning about as you re-look at a subsequent license  
22 renewal, you know, widen the scope or maybe not  
23 widen. Somebody said at least readdress the scope  
24 of what you had in license renewal. You know, is

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1 there time with population and that to look at EP and  
2 security and those again? So, as a minimum, we need  
3 to address the public. Why do we still believe in  
4 those assumptions or not believe in them?

5 So on the same aspect, aging management  
6 programs, I've had managers, senior managers, tell  
7 me in the agency, "Gee, as we're looking at life past,  
8 60 years, 70, you know, should we look again more at  
9 active components?"

10 I mean, those are questions raising the  
11 basis to the original rule as you want to talk about  
12 it, where there were good reasons for that. Active  
13 components can mostly be replaced. And so the  
14 emphasis should be on the passive components.

15 I was pushing on cabling because a  
16 manager will ask me. I have heard the Japanese will  
17 just automatically replace cabling. You know, the  
18 regulator will put in a requirement that at least  
19 they were thinking that way that at age 50, we just  
20 think. We place cabling. And, you know, we don't  
21 have that requirement. We say you have an aging  
22 management program that will logically look at it and  
23 look at the failure rate and try to stay ahead of  
24 that.

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1           So we are asking ourselves those kinds  
2 of questions. And you just mentioned -- you know,  
3 that bothers me myself personally. Do I have enough  
4 aging management programs on the things I think I  
5 should have? Relays are the cutting electrical  
6 equipment when we -- what is passive and what is  
7 active?

8           Transformer failures out there in the  
9 industry, routinely when we talk of this operating  
10 experience, I don't want to lighten it. We can't  
11 talk enough about that because every day when we get  
12 a plant trip or lose a safety bus for some reason,  
13 you know, we ask ourselves. Here in license  
14 renewal, you know, we're just now working on that  
15 plant. Is that something we might have missed in a  
16 license renewal review?

17           When I say, "missed," you know, could I  
18 have been tougher on an aging management program?  
19 So those questions get asked of us. And we're asking  
20 ourselves that. And so I hope that those aging  
21 management program enhancements come out.

22           Yes, Mr. Lochbaum?

23           MR. LOCHBAUM: I appreciate that. And  
24 I'm glad those questions are being asked and answered

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1 because I think that is very healthy. And it makes  
2 the process better over time. So I'm glad to hear  
3 that.

4 I'll just ask it more formally. The NRC  
5 does a lot of industry trends programs and has a lot  
6 of indicators that it tracks, safety system  
7 failures, and so on. Are those being culled out to  
8 identify those that may have an aging-related  
9 component when it's passive failure or an active  
10 component to see if trends are going in different  
11 directions to back up or supplement the questions you  
12 are already asking yourself?

13 MR. HOLIAN: Yes. I think that is a  
14 good comment. I won't be able to answer. We've  
15 asked that of our operating experience group, you  
16 know, the part 50 group. Can you do cut sets on  
17 aging-type issues? They do trend.

18 The hard part -- Mr. Lochbaum probably  
19 knows this, and many of the panelists know this in  
20 the industry -- is does it get marked as an aging  
21 issue or just a simple failure?

22 So I know our inspectors wrestle with  
23 that when they look at licensee event reports and  
24 that. How did you trend that? And was it simple

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1 failure? Was it a fatigue failure or was it, you  
2 know, somebody really you think stepped on the  
3 instrument tubing?

4 So those questions are hard when you get  
5 into the details, but I believe, you know, we do have  
6 ways in our operating experience group. I don't  
7 know. I would like the industry in some of your  
8 trending for aging management to comment on that,  
9 maybe Mr. Fallin.

10 MR. FALLIN: We do have trending codes  
11 that we use, but INPO right now is looking at the  
12 trending codes that we are using in the industry and  
13 trying to do better, standardizing them, because,  
14 for one thing, we have so many of them.

15 When we have pages and pages and pages  
16 of trend codes that are in our corrective action  
17 program that sometimes makes it difficult to each  
18 individual looking at a certain situation, we can use  
19 a different trend code. So sometimes it's hard to,  
20 you know, cover consistency. So I know that INPO is  
21 looking to improve the consistency in the use of  
22 trend codes and their corrective action programs. I  
23 know that is going on.

24 MR. LOCHBAUM: I know it's a challenge.

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1 I don't mean to minimize the effort to do it. But  
2 having that database or that information would  
3 better inform decisions about where to apply  
4 resources and related issues. If he could develop  
5 that more fully and complement its industry trend  
6 program and other data collection, I think that would  
7 help this effort as well.

8 MR. HOLIAN: Yes. Allen?

9 MS. LAMPERT: I have a question. I  
10 have been looking and could not find a list of the  
11 corrective actions per reactor, date when it  
12 occurred, and a check when it was checked off. And  
13 I think that would be important for an idea of  
14 history. Do you keep such lists? Are they  
15 available to the public?

16 And you could also tag some for -- you  
17 know, obviously with codes, it would be  
18 appropriate -- where they fit in. I've never seen  
19 that list.

20 MR. HOLIAN: Yes. Ms. Lampert, this is  
21 Brian Holian. I'll take one stab at that, maybe the  
22 industry or other NRC people.

23 But coming from a regional perspective  
24 for nine years and overseeing inspections at the

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1 plants, you know, the sampling agency that gets done  
2 or the sampling inspections that get done, the best  
3 source of that are the inspection reports on the  
4 plant. You know, in particular, there are ones that  
5 used to be called the problem identification and  
6 resolution inspections. And, you know, they're  
7 done --

8 MS. LAMPERT: It's not a summary list,  
9 though. I would like to see every bloody corrective  
10 action, let's say, for Pilgrim, when it was  
11 submitted, what it was, when it was resolved.

12 MR. HOLIAN: Right. And that's not a  
13 requirement. So the answer is no. That is not a  
14 requirement. There is no list for every corrective  
15 action. A plant may do 12,000 corrective actions.  
16 I'm sure you've followed some of these numbers at the  
17 public meetings and have heard those answers. And  
18 if the NRC has those available to them, they will go  
19 ahead and do that sampling list and do it through  
20 inspections.

21 But I understand the point. It would be  
22 nice from some public people to see that whole list  
23 so they could do their own trending. I understand  
24 the point.

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1           Go ahead, both of you. Mr. Hiser had  
2 something and then Mr. Riccio.

3           DR. HISER: Just wanted to touch on a  
4 couple of things. You mentioned failure rate. And  
5 one of the purposes of part 54 is not only to prevent  
6 failure, but it's to ensure that there's margin.  
7 Aging management doesn't mean you run it until it  
8 fails. It's a leak. So it doesn't -- and also  
9 failure, having a leak, doesn't necessarily mean  
10 that it's failed its function. I mean the  
11 functionality of a lot of things relates to  
12 sufficient water flow, things like that.

13           And part of I think the tension that we  
14 have in license renewal is what we try to build in  
15 our guidance in part 54, SRP, and the GALL is things  
16 that we think will provide aging management that's  
17 appropriate, but it may not -- the problem that we're  
18 fixing under aging management may not be something  
19 that under part 50.109 has a high enough safety  
20 significance that we're able to backfit it under the  
21 industry.

22           And, from my perspective, there is a  
23 natural tension between the part 50 failure  
24 prevention versus part 54 aging management

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1 prevention. We want to ensure that there is that  
2 sufficient margin and additional margin.

3 And, just so I can make one other point,  
4 some of the issues -- Brian mentioned the neutron  
5 absorber concerns were identified in an ISG and I  
6 think an IN and are now in GALL, rev. 2 with the new  
7 A&P. We are looking at under part 54 spent fuel pool  
8 criticality issues that would bring that in and  
9 potentially be something that would be resolved on  
10 a generic basis under part 50. And that's one case  
11 in point where the consequences of inadequate aging  
12 management have safety implications that would be  
13 dealt with under the appropriate methodology.

14 MR. WEBSTER: Can I come back on the  
15 pipes? Most people agree the way you're carrying a  
16 pollutant in a pipe, the pipes have two functions,  
17 in fact. It has the function of transferring the  
18 pollutant from A to B. It also serves the function  
19 of preventing the pollutant from escaping into the  
20 larger environment where it can potentially  
21 contaminate people's drinking water, other  
22 environmental resources.

23 So it's all a question of how you view  
24 pipe functionality. I would suggest that because

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1 these reviews have both environmental component and  
2 a safety component, that the agency if it can't hang  
3 its hat on the safety component should hang its hat  
4 on the environmental component.

5 DR. HISER: I think we can hang them on  
6 both components.

7 MR. WEBSTER: And that's why those are  
8 failure. that's why when the pipe leaks, that's a  
9 failure. And that's a failure of aging management.  
10 You should count it as a failure.

11 MS. LAMPERT: May I butt in here because  
12 I had a contention on that very issue, Richard. And  
13 three-quarters of the way through right before a  
14 hearing, it was determined leaks of radioactive  
15 material that are unmonitored, go off-site are not  
16 important. What NRC cares about are solely whether  
17 the leak, the break in the pipe is so bloody big that  
18 it would interfere with the safe shutdown of the  
19 reactor or maintenance of shutdown.

20 MR. WEBSTER: Right. And that's  
21 exactly --

22 MS. LAMPERT: So it was kicked out on  
23 that, which is an absurdity.

24 MR. WEBSTER: Well, that's exactly the

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1 point I am making. Mr. Hiser, you had something else  
2 to add.

3 DR. HISER: Yes.

4 MR. HOLIAN: Well, you know, the NRC  
5 does consider, you know, we don't want the pipes to  
6 leak. This was the whole Commission issues last  
7 year on groundwater monitoring. So we're  
8 revisiting some of that ground where that came up to  
9 the Commission for that same thing. Are we giving  
10 the radioactive fluid aspect enough of a -- I'll call  
11 it safety significance? And they claimed as the  
12 Commission looked at it, safety significance is  
13 lesser.

14 Now, it's still an unwanted failure.  
15 Do we track that failure, that piping still? Yes.  
16 I mean, it might not have lost its failure of the  
17 functionality of the flow needed for the pump. So,  
18 therefore, they didn't get a yellow finding. You  
19 know, they might have only got a green finding, if  
20 a finding at all. But, you know, we still track it.

21 In license renewal, the licensee, we  
22 expect them to track it. Hey, this was an aging  
23 management I'll call it failure. You know, you did  
24 not replace this pipe in enough time or identify

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1 that. So, you know, we track it in their aging  
2 management operating experience.

3 And that's what Dr. Hiser was trying to  
4 say. There is some tension between this division,  
5 the Division of License Renewal, and our sister  
6 divisions in NRR. And when I was talking about the  
7 utility not having a mindset of aging, sometimes that  
8 is NRC staff.

9 You know, the ones that deal just with  
10 operability almost think that way. And Dr. Hiser,  
11 who had come from that side of the staff into license  
12 renewal, brings along that aging management to NRC  
13 staff. They're getting better at it. But it is  
14 almost two different I'll call it criteria, but  
15 they're complementary.

16 MR. WEBSTER: Thank you for being so  
17 straightforward and recognizing that. But I do  
18 think, even though -- you know, I think sometimes  
19 because the two track, safety and environment and  
20 such, it's because they're so distinct you actually  
21 miss sometimes some opportunities for holistic  
22 mitigation.

23 I mean, this is where this afternoon,  
24 the next panel -- I think that's SAMA. It seems a

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1 bit bizarre to me that SAMA is on a total different  
2 track than the safety review. And something else  
3 that you might want to think about is potentially  
4 integrating SAMA into the safety review.

5 MR. HOLIAN: Yes. You mean on the  
6 environmental review vs. the safety.

7 MR. WEBSTER: Yes.

8 MR. HOLIAN: Yes. That's a fair  
9 comment. We'll catch that.

10 Mr. Riccio? Sorry.

11 MR. RAKOVAN: Please? He's been  
12 amazingly patient. Please?

13 MR. RICCIO: It's almost as if it's  
14 staring me right in the face. Yes. We do not  
15 believe that the current case is adequately  
16 documented or that it actually enforces it. And I  
17 would like David Lochbaum, UCS, to speak to the  
18 licensee's commitments. It seems to be in this  
19 slide that licensee commitments are considered  
20 partly currently licensing basis, but as far as I  
21 know, they're not enforceable.

22 MR. LOCHBAUM: To address that, the  
23 Inspector General did a review last April, I think  
24 it was, on commitments. And they said the staff has

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1 got some differences. Some consider them  
2 enforceable. Some don't.

3 So inconsistency is a great thing. It  
4 increases the chance of being right, even if you  
5 don't know when that is. So the IG seemed to suggest  
6 that there is a disparate way of how the NRC treats  
7 commitments. And it's not consistent, which means  
8 it's right sometimes and wrong sometimes.

9 You and I you can recall a few years ago  
10 wrote a letter to the NRC because we got a letter from  
11 the NRC saying that commitments are unenforceable  
12 and it doesn't matter that we found some plants that  
13 weren't meeting their commitments.

14 We have submitted a petition to turn  
15 them all into commitments. And they said, "No. It  
16 doesn't matter because commitments are voluntary  
17 initiatives." Commitments really don't mean  
18 anything. So I know that they are part of the  
19 current licensing basis by definition, but they are  
20 the unenforceable part, as opposed to regulations  
21 that are also unenforceable. So it's splitting  
22 hairs.

23 MR. RICCIO: Again, we would like to  
24 believe that the agency would take appropriate steps

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1 when it found an aging issue to address it, even in  
2 the current license, let alone in a renewed license  
3 or an extended renewed license. But that again also  
4 isn't the case.

5 We know what happened to Davis-Besse.  
6 You know, Davis-Besse took me by surprise. It  
7 shouldn't have. Greenpeace submitted to the agency  
8 French experience of Davis-Besse vessel head  
9 cracking. NRC took that -- and this is the  
10 experience. They took that. They turned it into a  
11 2.206 petition. And it turns out that is exactly  
12 what led to the problem at Davis-Besse.

13 MR. LOCHBAUM: Nineteen ninety-one,  
14 Bugey in France.

15 MR. RICCIO: So, again, we would hope  
16 that the agency would take corrective action. It  
17 just isn't the case.

18 MR. RAKOVAN: If you're going to  
19 speak, you need to be on a microphone.

20 MR. MEDOFF: Yes. The agency was  
21 well-aware of the experience in the early '90s. We  
22 did a different process that was reviewed by the  
23 Division of Component Integrity at the same. So we  
24 address the French experience on nickel alloy

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1 degradation in the upper heads of the reactor  
2 pressure vessels for the PWRs in the U.S. through a  
3 different regulatory process.

4 MR. RICCIO: I think that's even worse.  
5 It's even worse.

6 MR. RAKOVAN: We're kind of getting  
7 off topic here, guys.

8 MR. RICCIO: I'm talking --

9 MR. RAKOVAN: No. I'm going to go to  
10 the ground rules and say that we're going to agree  
11 to disagree. We're focusing on one specific issue  
12 over and over again. And we're supposed to be  
13 talking about subsequent license renewal topics, the  
14 safety issues in general.

15 MR. RICCIO: I think Davis-Besse has a  
16 lot to do with the --

17 MR. RAKOVAN: I don't disagree with  
18 you that Davis-Besse has a lot to do with it, but I'm  
19 seeing a back and forth going on here. And so I am  
20 going to step in.

21 Now, if you can hold on one second, I  
22 know we didn't have anybody from the phone lines that  
23 were interested in the morning, but we've only got  
24 a couple of minutes left of this session. So, Julia,

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1 if you could give a quick check to the phone lines  
2 to see if anybody has any interest in making a comment  
3 or asking a question at this time?

4 THE OPERATOR: Thank you. Once again  
5 please press \*1.

6 (No response.)

7 THE OPERATOR: Showing no questions or  
8 comments.

9 MR. RAKOVAN: Okay. None of our  
10 panelists?

11 MR. FALLIN: Yes. I would like to.  
12 Yes. Brian is specifically asking a couple of  
13 questions along the way. And I wanted to address  
14 those. First, about commitments, I want to say that  
15 we do consider commitments as part of the license  
16 renewal things that we have to do. And they're part  
17 of what the NRC looks at when they come in and do their  
18 IP 71003 inspect. That is the main focus of their  
19 inspections, a look that we have implemented the  
20 commitments that we have made. That's the main part  
21 of the inspection.

22 And where we have -- there are times  
23 where we make commitment changes, but there is a  
24 specific process for that that we go through. And

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1 they look at those. And if they don't rise to the  
2 level where we have to report them to the NRC because  
3 there's a process for that, they have to rise to a  
4 certain level to be submitted to the NRC  
5 independently of being reviewed during the  
6 inspection at the plant.

7 That is one of the things that they look  
8 at when they come to the plant is they look at any  
9 commitment changes that have been made. And they  
10 look at our commitment change process to make sure  
11 that we are following what the requirements are for  
12 that.

13 MR. HOLIAN: This is Brian Holian.

14 Just to comment on that, Mr. Riccio was  
15 commenting on the CLB definition. And Mr. Lochbaum  
16 was commenting on the IG report on commitments.  
17 They did interview license renewal staff just  
18 briefly, but they primarily if I've got it right, Mr.  
19 Lochbaum, they concentrated on the part 50-type  
20 commitments, the ones in a letter that come in on a  
21 normal licensing action.

22 I don't personally know why there's a  
23 difference. I know that's -- I'll call it a squishy  
24 area, but in part 54, we do hold a little higher hat

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1 to them. We list them. We mention them in appendix  
2 A to the SER and tie that into a license condition  
3 that they do. And so in license renewal, they get  
4 a higher hat.

5 And, as Mr. Fallin mentioned, the  
6 inspections will go out there prior to extended  
7 period and ensure their completeness. So that is a  
8 good area, but I want to draw that difference between  
9 the IG report, which historically goes back. And I  
10 think the IG has a difference with the staff. They  
11 would like to see a lot of these commitments in normal  
12 space, you know, maybe be a license condition or  
13 something, something that was a little more  
14 enforceable. I wanted to mention that also.

15 But, Mr. Fallin, did you have another  
16 comment?

17 MR. FALLIN: You had asked  
18 specifically -- you mentioned Calvert Cliffs and  
19 buried piping as an example.

20 MR. HOLIAN: Oh, yes.

21 MR. FALLIN: And we certainly are doing  
22 a lot more now than what we committed to initially  
23 with the application. The industry has recognized  
24 that we had buried piping issues. NEI has through

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1 the NSIAC initiative for industries followed a very  
2 prescriptive program for what we need to do with  
3 buried pipe. And we are certainly doing that.

4 MS. LAMPERT: Can I make a comment?  
5 This is Mary Lampert.

6 I've been married a long time. So I  
7 believe in commitments. This brings us back to  
8 process. When a commitment is made, during the  
9 renewal process, you have an opportunity to  
10 intervene. But if the commitment's changed  
11 afterwards, then the public is out of the game. And  
12 it seems the remedy would be to allow later  
13 intervention if the commitment is changed if the  
14 petitioner can show there is a safety issue involved.  
15 I mean, that seems fair.

16 MR. HOLIAN: Ms. Lampert, this is Brian  
17 Holian.

18 We'll take that comment that it's a good  
19 comment. I know sometimes you see -- somebody  
20 mentioned Beaver Valley earlier. I think it was Mr.  
21 Webster. And, you know, that was actually a license  
22 condition that we put in. And so the staff does have  
23 the ability, you know, in commitment vs. license  
24 condition for some issues. So that is an area we

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1 have been looking at. And we'll take that comment.

2 MR. FALLIN: You also asked about cable  
3 replacement. There are cables we're replacing at  
4 Nine Mile as a result of them being in a wedded  
5 environment. We have that happening. In fact, it  
6 may be happening this outage.

7 We have cable we replaced in the last  
8 outage for Calvert I for pressurizer heater cables  
9 that we wound up replacing.

10 We have the contingency at Ginna for  
11 that. We have cable that we are monitoring on every  
12 outage. There is cable that is inaccessible cable.  
13 It's monitored and tracked. And if we see  
14 performance degradation, we have a contingency to  
15 replace it. So these are things that, you know, we  
16 do on an ongoing basis.

17 MR. HOLIAN: Yes. I think -- and I was  
18 pushing you a little bit for that. You know, I push.  
19 From an NRC perspective -- this is Brian Holian  
20 again.

21 You know, I mentioned earlier we would  
22 like to, you know, require plants to probably  
23 highlight more of their replacement aspects, you  
24 know, so we could easily compare one plant versus

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1 another. What plant has replaced a lot of  
2 components? And it's vs. a plant that is not and is  
3 relying on an aging management program to run their  
4 systems a little bit longer and tougher and harder.  
5 So that's one reason why.

6 The other reason was I get bothered a  
7 little bit when I see slides that say there are no  
8 showstoppers. You know, well, we all know there are  
9 showstoppers. Mr. Webster was listing plants that  
10 have stopped at 50 years, 47 years. You know, they  
11 came across economic showstoppers or, you know, so  
12 those decision points. So that's a healthier  
13 discussion for me and for the public I think to see  
14 that, okay, if I'm a plant and if EPRI tells me you're  
15 going to need to replace 80 percent of your cabling  
16 at age 60, you know, I think it's helpful for the  
17 public to see, oh, gee, that would be an economic  
18 showstopper. That would cost me, you know, 1.3  
19 billion to do that.

20 Vessel fluence. If I don't make the PTS  
21 rule, you are right. That is a showstopper. That  
22 would be age 63 for me under the current rule. So  
23 that's why, one of the reasons why, you know, is cable  
24 replacement, wholesale cable replacement, necessary

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1 at the 60-year point or 65, 70-year point? As much  
2 as we can get some realism to that, I know that's the  
3 first question. But even from the industry to say,  
4 "If we ever had to replace the vessel or an inlet,  
5 that's a showstopper."

6 So, you know, I've heard EPRI and DOE  
7 talk. I think they've done some studies at other  
8 seminars that we anticipate only two-thirds of the  
9 fleet will be able to go for a 60 to 80-type renewal  
10 because of economic reasons. And so there's some of  
11 that data being out there being studied. And it  
12 doesn't get to the public arena. And so that's kind  
13 of why I am pressing on comments like that.

14 MR. RICCIO: There's certainly  
15 potential for economic showstoppers. You know,  
16 Garry was talking to that earlier. There are  
17 situations where that is going to happen. The  
18 context on my side is that we don't see any technical  
19 showstoppers at this points. That's the point I was  
20 making. But there's certainly going to be economic  
21 showstoppers.

22 MR. RAKOVAN: Dave, you had a comment.  
23 And then I'll go to Jim.

24 MR. LOCHBAUM: I just wanted to -- I

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1 knew this meeting was going to allow me to present  
2 our concerns about the license renewal process. It  
3 was also going to allow the NRC to ask questions to  
4 make sure that my positions are if not agreed upon,  
5 at least understood.

6 And also what I didn't expect and really  
7 appreciate is that the NRC has taken time to clarify  
8 some of the understandings I had or  
9 misunderstandings I had. And I got some homework to  
10 do to go back and follow up on some of these things.  
11 So I appreciate that aspect of the meeting. It  
12 wasn't one I expected, but I fully appreciate and am  
13 glad that it happened.

14 MR. RAKOVAN: Jim, take us to the  
15 break.

16 MR. RICCIO: Just kind of questioning  
17 as you're pulling cable and replacing cable, that  
18 type of thing, I know for a fact that there are all  
19 kinds of things that happen in licensing that do not  
20 meet the cable separation criteria. Is it possible  
21 to actually separate cable as you are replacing it?

22 MR. FALLIN: I'm not electrical. So I  
23 can't speak to that, to be honest with you.

24 MR. RICCIO: Anyone?

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1 MR. RAKOVAN: Do we have anyone that  
2 can address Mr. Riccio's question?

3 MS. LAMPERT: It didn't come across  
4 clearly. What was the question?

5 MR. HOLIAN: This is Brian Holian just  
6 jumping up. I'll see if I get it right.

7 You know, you're raising cable  
8 separation criteria. And, you know, I'm not an  
9 electrical engineer either, but engineering-wise,  
10 you would hope if they've got an existing cable  
11 separation, you are able to pull through a path that  
12 still maintains it's separate.

13 You know, you would have to de-energize.  
14 And you do this during an outage and what applies.  
15 So if that answers it, I would hope that would be the  
16 criteria.

17 MR. RICCIO: The question wasn't, can  
18 you keep cables that are already separated  
19 separated? The question is, could you be able to  
20 separate cables that aren't? This comes to my mind  
21 because when you had the amnesty program, you'll  
22 remember Indian Point had cable separation issues,  
23 which never seem to have gotten addressed.

24 MR. HOLIAN: Okay.

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1 MR. RAKOVAN: Go ahead. Please?

2 MS. BERNHOFT: I'll step way out here.  
3 I came obviously from the industry to EPRI. And one  
4 of the things I did is I did run major projects for  
5 a couple of other utilities. The answer is yes. I  
6 mean, you had to plan for it. There are costs to it  
7 but yes, you have that ability.

8 A lot of times you are going to keep  
9 quite inventive before you are going to run it  
10 through so it's not on the plant that's normally  
11 designed. Sometimes you have to move walls. You  
12 have to move components, move valves, but yes, we  
13 have done all of that.

14 When new fire protection rules come out,  
15 that's one that really comes to mind. We did one of  
16 two things. We either moved components, moved  
17 valves, rerouted cable and to support that or we came  
18 up with different wraps bubbling of the cables, too,  
19 to give them protection from each other. So  
20 technically it's possible.

21 MR. RAKOVAN: And with that, I would  
22 like to go to a 15-minute break. We will come back  
23 with our panel on environmental issues.

24 And, just to remind people, we are not

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1 turning the microphones off. So any conversation  
2 you are having around a microphone will get caught.

3 (Whereupon, the foregoing matter went  
4 off the record at 2:19 p.m. and went back on the  
5 record at 2:36 p.m.)

6 MR. RAKOVAN: Welcome back, everyone.  
7 We're going to move on to our third topic and panel  
8 of the day, on environmental issues. I'll go ahead  
9 and introduce our panel members for this, and then  
10 I'll turn things over to Jeremy, who's going to give  
11 the NRC overview of the topic.

12 Coming back, we have Mary Lampert.  
13 I'll go ahead and read her quals for you, just in case  
14 you missed them the first two times. Mary Lampert  
15 is the director of Pilgrim Watch, a public interest  
16 group in Massachusetts. Mary represents Pilgrim  
17 Watch pro se, as a party in the adjudication process  
18 regarding Entergy's license application to extend  
19 operations at Pilgrim to 2032. The legal proceeding  
20 began in 2006, and is ongoing.

21 Returning again, we have Richard  
22 Webster. Richard is currently an environmental  
23 enforcement attorney at Public Justice in  
24 Washington, DC. His academic background includes a

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1 B.A. in Physics from Oxford University, a Masters in  
2 Engineering Hydrology from Imperial College,  
3 London, and a J.D. from Columbia Law School.  
4 Through Public Justice, he has represented citizens'  
5 groups in a wide range of matters, including the  
6 review of the decision by the NRC to relicense the  
7 Oyster Creek Nuclear Power Plant, and providing  
8 advice to Clearwater regarding the relicensing of  
9 the Indian Point Nuclear Power Plant.

10           Joining us, we have Scott Wilson.  
11 Scott has worked for the EPA 24 years, addressing  
12 wastewater permitting issues for industrial  
13 facilities. He spent 21 years in the Region VI  
14 Office in Dallas, addressing oil and gas, mining,  
15 electric power generation, and other industrial  
16 issues. Scott has worked in EPA Headquarters'  
17 Office of Wastewater Management as energy  
18 coordinator since January of 2009. He has a Masters  
19 of Science degree in environmental science from the  
20 University of Texas at Dallas.

21           Also joining us is Rick Buckley. Mr.  
22 Buckley is the corporate environmental license  
23 renewal lead for Entergy's fleet of 11 operating  
24 nuclear power plants. Mr. Buckley joined Entergy

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1 Nuclear in 1986. He is a certified hazardous  
2 materials manager and registered environmental  
3 manager. He is also a member of the Nuclear Energy  
4 Institute License Renewal Task Force, and the  
5 Electric Power Research Institute Nuclear Power  
6 Plant Cooling Water Intake Technical Advisory Group.  
7 Mr. Buckley has a B.S. degree in biology with a minor  
8 in chemistry from the University of Southern  
9 Mississippi.

10 Similar to the other panels, we'll get  
11 to our panelists and allow them to give a brief  
12 opening statement in a few minutes, but first I'm  
13 going to turn it over to our NRC staffer to give us  
14 a brief overview of the topic.

15 Jeremy?

16 MR. SUSCO: Hi, my name is Jeremy Susco.  
17 I'm the Acting Branch Chief of the Environmental  
18 Review Branch, and our Branch puts together the  
19 Environmental Impact Statements that go along with  
20 the license renewal process. If any of you remember  
21 Andy Imboden, I'm Andy Imboden's successor.

22 So I'll start off with the first slide.  
23 What we've talked about a lot so far today has been  
24 all under the Atomic Energy Act.

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1 MR. RAKOVAN: Jeremy, can you bring the  
2 microphone more centered in front of you, since  
3 you're going to be talking for a little while?

4 Thanks. Appreciate it.

5 MR. SUSCO: So I wanted to talk about  
6 the other act which is particularly important for  
7 license renewal, which is the National Environmental  
8 Policy Act. That was put out in 1969, and it is meant  
9 for -- it requires federal agencies to do a  
10 systematic review of the potential environmental  
11 impacts before they make major decisions.

12 So it's meant to inform federal  
13 decision-making, along with any other reviews that  
14 accompany any particular action, and it really  
15 provides for public disclosure of the environmental  
16 impacts, and as well looks at alternatives for the  
17 federal action, as well as any mitigative actions  
18 which could lessen the impacts of the federal action.

19 That act also set up the Council on  
20 Environmental Quality, and the Council on  
21 Environmental Quality then put out the regulations  
22 in the Code of Federal Regulations that cover how  
23 agencies are to conduct their NEPA reviews. The NRC  
24 has codified those rules in 10 CFR Part 51, and one

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1 of the things that it says in there is that a license  
2 renewal is a major federal action, which means that  
3 we're required to put together an environmental  
4 impact statement as part of our action.

5 Next slide, please.

6 So what kind of things do we look at in  
7 our environmental impact statements? You can see  
8 from the list up there, we look at water issues,  
9 ecology, air, and noise, and a host of other issues.  
10 But we don't do it alone. We also -- you can see in  
11 that picture there, we consult with other agencies.  
12 We consult with state and local officials, and other  
13 affected Indian tribes.

14 Next slide, please.

15 Some of you may already know what's on  
16 this slide, but for the benefit of those who are a  
17 little unfamiliar with our process, I just want to  
18 discuss how we do things currently.

19 So it starts out with a notice of intent  
20 in the Federal Register, to let everybody know that  
21 we intend to draft an EIS for a particular license  
22 renewal action. That usually starts a scoping  
23 period, where we're asking for comments from the  
24 public or other interested agencies and different

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1 organizations to find out what issues should we look  
2 at for a particular site, or which issues are  
3 peripheral that we should not look at. During and  
4 after that period, as I said before, we also  
5 coordinate with states, tribes, other federal  
6 agencies, such as the Fish and Wildlife Service and  
7 National Marine Fisheries Service to understand the  
8 environmental landscape.

9 We also always go out to the site, and  
10 we conduct a site audit to make sure that we can,  
11 beyond what's in the environmental report,  
12 understand the environmental conditions in their  
13 context. Following a site audit, we always usually  
14 have a couple of questions that we ask, requests for  
15 additional information from the applicant that  
16 supplements the environmental report, and it all  
17 gets rolled up into our draft supplemental  
18 environmental impact statement. And I'll get to  
19 what supplemental means in a second.

20 In the standard EIS, it has an  
21 accompanying public comment period, and we'll take  
22 a look at those comments, incorporate the ones that  
23 are in scope, and then we'll put that together into  
24 our final environmental impact statement.

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1 I just want to note, for the scoping  
2 period and for the draft SEIS, those are always  
3 accompanied by public comment periods, and we always  
4 have meetings that we conduct near the plant site to  
5 better receive comments from local constituents.

6 So I used the word supplemental  
7 environmental impact statement because every EIS  
8 that we do in license renewal is a supplement to our  
9 generic environmental impact statement. And the  
10 generic environmental impact statement looks at what  
11 we call Category I issues. Those are issues that we  
12 consider to be generic to, basically, all power  
13 plants, and that we evaluate those impacts in the  
14 GEIS.

15 So what it allows us to do is, in our  
16 supplemental environmental impact statements, we  
17 look at what we call Category II issues, which are  
18 more site-specific, so that we can really focus on  
19 what we call the important site-specific issues, and  
20 make the best use of our resources.

21 And along with that, I just want  
22 everyone to know that on April 20th, we did provide  
23 Revision 1 to the GEIS to the Commission for their  
24 deliberation, and we're very proud of it. It

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1 represents all the lessons learned and knowledge  
2 gained from the last 40-plus EISes that we've put  
3 out. So that is up with the Commission for their  
4 vote.

5 Next slide, please.

6 So our starting point for second license  
7 renewal, because it's worked out very well in our  
8 opinion, is the current process. One notable  
9 exception is with the evaluation of severe accident  
10 mitigation alternatives. The rule is now, as it  
11 states, that's 10 CFR 51.53, that if you have  
12 previously done that evaluation and it's been  
13 considered by the NRC, it's only required to be done  
14 one time.

15 And just one thing I did want to mention  
16 for environmental reports from the applicants is,  
17 just like the first license renewal built on the  
18 final environmental statement for operating  
19 license, this environmental report should really  
20 build on the work of the first license renewal.  
21 Whereas the first one focused on that 40 to 60 year  
22 increment, this one would focus on the 60 to 80 year  
23 increments, so we understand the environmental  
24 impacts of those additional 20 years of operation.

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1                   And we do look forward to any comments  
2 that we have on how we can improve the process for  
3 second license renewal. Thanks.

4                   MR. RAKOVAN: Thank you, Jeremy.  
5 Let's go ahead and go to our panelists. Similar like  
6 I did to the second session, I'd like to kind of mix  
7 our new panelists in with the ones that participated  
8 in previous. So if we could start with Mr. Wilson?

9                   MR. WILSON: Thanks. I guess the  
10 issues between EPA and NRC are a little complicated,  
11 in that there's sort of this dual regulatory role,  
12 or NRC regulates some things, radionuclides  
13 specifically, and we regulate other issues.

14                   Probably the biggest environmental  
15 issues that we're working on presently are 316(a),  
16 which is a section of the Clean Water Act that covers  
17 thermal discharges, and section 316(b), that covers  
18 cooling water intake.

19                   316(b) I'll talk about first. We're in  
20 the midst of rulemaking there. It addresses  
21 intakes, as I said, and the intent is to minimize  
22 environmental impacts due to impingement and  
23 entrainment of aquatic life. The Phase II rule for  
24 316(b) was issued in 2004. Unfortunately, the court

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1 remanded it in 2007. And we repropose a new rule  
2 in April of 2011, with a court deadline to finalize  
3 it this July. At this point, we haven't made a final  
4 decision on what that rule will look like, so that's  
5 up in the air.

6 Now, that said, the Clean Water Act  
7 still requires that permits would require best  
8 technology available for cooling water intake, which  
9 can include things to minimize or eliminate  
10 discharge, like cooling towers or otherwise larger  
11 intake structures that would have slower intake  
12 velocities and screens and things to keep aquatic  
13 life from becoming entrained and impinged. So  
14 permit writers at this time, when they're writing  
15 NPDES Clean Water Act permits, are supposed to  
16 analyze the plant and determine what requirements  
17 are needed and what are there.

18 Now, I have to admit, without a rule, the  
19 state permit writers, who write most of the NPDES  
20 permits, have a high level of uncertainty. So  
21 that's an issue that the states -- you know, they  
22 don't want to require something that's much more  
23 stringent than the final rule would require, but they  
24 want to obviously fulfill their regulatory

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1 obligations. So pending a final rule, there is a  
2 little bit of an issue with the states actually  
3 implementing 316(b) and protecting cooling water  
4 intakes, or fish from being impinged and entrained  
5 in cooling water intakes.

6 So at this time, a number of the states  
7 are looking into it. And typically the permits are  
8 requiring more data to be submitted, but at this  
9 point that's sort of a gap in what we're doing, and  
10 an issue that we're going to have to keep working to  
11 address, and hopefully will finalize in the next few  
12 months.

13 316(a), the thermal discharge  
14 requirements of the Clean Water Act -- the act allows  
15 for a variance of state water quality standards for  
16 thermal discharges if the limits that would be  
17 required by the standards are more stringent than is  
18 necessary to protect a balanced and indigenous  
19 population of shellfish, fish, and wildlife.

20 In that case, for a new plant, the  
21 facility would have to submit studies of the water  
22 body and information as to what they think the  
23 impacts are, and then plans to study it further once  
24 the plant starts discharging. For these existing

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1 plants, the rules -- the current regulation do allow  
2 for evidence that there hasn't been harm done in the  
3 past.

4           Quite honestly, this is an issue that  
5 EPA is starting to try to pay a little more attention  
6 to. In a number of cases, a lot of these analyses  
7 were done years ago, and states, due to limited  
8 resources and other issues that they're working on,  
9 haven't really gone back to require information and  
10 revisit what's happening.

11           I think it's probably an issue for the  
12 industry too, especially in the southwest this year,  
13 and the southeast often has experienced drought  
14 conditions. And with less water, there's less water  
15 to dilute a thermal discharge, so more impacts on  
16 aquatic life. But also, if you have higher water  
17 temperatures, I understand there can be operational  
18 constraints on plants.

19           I think a couple points, somebody raised  
20 an issue that Browns Ferry in Alabama, the plant  
21 there had some fish kills and had increased  
22 temperatures and had to shut down at times, and I  
23 think that is -- if we keep experiencing more and more  
24 drought conditions, like it's still looking like

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1 will occur in the southwest again this summer, that  
2 that's going to be more of an issue.

3 Again, if companies analyze water use,  
4 water conservation, that they can do within the plant  
5 and moving to cooling towers and other technologies,  
6 that probably would be beneficial, both for 316(a)  
7 and 316(b).

8 With that, I'll turn it over to the next  
9 person.

10 MR. RAKOVAN: Okay. Mary, if you're  
11 prepared with your statement, please go ahead.

12 MS. LAMPERT: Oh, sure. I'd like to  
13 focus first -- did I hear correctly that the SAMA,  
14 if it's been done once, let's say in the first  
15 go-around for relicensing, that it's not going to be  
16 required to be done again?

17 MR. RAKOVAN: Yes, you heard that  
18 correctly.

19 MS. LAMPERT: Well, I object to that.  
20 First, the current SAMAs are currently inadequate  
21 because the computer tools that are used, the MACCS2,  
22 is outdated. Let me see, David Chanin, who wrote the  
23 FORTRAN, has provided testimony in the Pilgrim  
24 license renewal proceeding that if anybody wanted to

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1 determine economic consequences using that code,  
2 that they would not -- they'd be wasting their time.

3           And I think also it's been made clear by  
4 Fukushima the inadequacies. The NRC Commissioners,  
5 in their vote on September 2011, appreciated the  
6 problem that the code does not model aqueous  
7 discharges. So in other words, you're only getting  
8 half a loaf from the analyses for those reactors,  
9 such as Oyster Creek, Pilgrim, so on down the line,  
10 who all have been using a code that the NRC  
11 Commissioners, post-Fukushima, recognize are  
12 inadequate.

13           Additionally, the code is only capable  
14 of modeling a release that extends for a maximum of  
15 four days if they decide to use IPLUME-3, which none  
16 of them have done. So Pilgrim, for example, the SAMA  
17 analysis only modeled eight hours of a release. Now  
18 we know from Fukushima that releases can be ongoing  
19 for weeks, months, et cetera. Obviously, the  
20 off-site consequences will be far greater.

21           We know also that the ATMOS module in the  
22 code uses the straight line Gaussian plume model, and  
23 in coastal areas along rivers, such as the situation  
24 at Vermont Yankee or Indian Point, the winds don't

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1 go in a straight line. They maybe go in a straight  
2 line in Oklahoma or something, but winds are varied  
3 and the impact is varied in areas such as described.

4 We know that the cleanup estimates are  
5 totally inadequate, because they go back to the  
6 assumptions of the WASH report, which was based on  
7 studies done from bomb tests where the radioactive  
8 materials are much larger and are far easier to clean  
9 up, don't get into crevices, et cetera, as is the case  
10 with a nuclear accident.

11 And as Commissioner Jaczko pointed out,  
12 it's important to consider not only the  
13 contamination but also the fact that people are  
14 forced to leave their homes. People are forced  
15 maybe never to come back again. That is not  
16 accounted. Health impact is underestimated because  
17 it's not based upon BEIR-7, the most recent study,  
18 et cetera.

19 And then there's this allowance for  
20 averaging. And once all the calculations are in,  
21 the code arranges them according to a mean, 95  
22 percent, et cetera, et cetera. And NRC permits  
23 using the mean, which dilutes and makes meaningless  
24 any consequences.

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1           So those are just -- and of course,  
2 modeling of spent fuel is allowed, which is wrong,  
3 because you can have the interaction between the  
4 reactor and the spent fuel pool, especially in BWRs,  
5 et cetera. And we know the world is holding their  
6 breath on Unit IV, and the Massachusetts Attorney  
7 General requested a hearing in Pilgrim, pointed out  
8 a spent fuel pool fire, consequences up to 488  
9 billion dollars, 24,000 latent cancers, et cetera.  
10 And then, of course, we had the National Academy of  
11 Sciences report.

12           So the way the SAMA is done now is a joke  
13 that underestimates costs, and as a result the public  
14 never gets the mitigation that they deserve. So to  
15 carry this forward and not require it being totally  
16 revamped and redone is quite disgraceful, actually.  
17 I could get into that further.

18           Second, also, once-through cooling is a  
19 very big issue here. And also a big issue is the fact  
20 that, often, the final environmental impact  
21 statement is written, however the consultations with  
22 the appropriate agencies hasn't been done, and the  
23 biological assessments to back up those  
24 consultations haven't been accomplished either.

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1           We know quite clearly, another big issue  
2           is the requirement for alternative analyses.  
3           Typically what is done is compare the nuclear plant  
4           to a coal plant, and so everyone will buy into the  
5           fact of global warming and the nuclear will win, as  
6           opposed to comparing with a mix of alternatives,  
7           which is the wave of the future, and including in that  
8           mix conservation. And I think the equation would be  
9           quite different.

10           Also, I'd like to see a comparison  
11           between putting a new nuclear reactor there, and so  
12           you could have a comparison which would swing back  
13           to a complaint that we have had of not requiring  
14           what's required of a new reactor to be required of  
15           existing, approved reactors.

16           And so that's just the beginning of  
17           comments that I have, and I thank you for the  
18           opportunity and look forward to chatting about it  
19           later.

20           MR. RAKOVAN: Thank you, Ms. Lampert.  
21           Let's go ahead and go to Mr. Buckley, please.

22           MR. BUCKLEY: I'd like to thank the NRC  
23           for the opportunity to provide issues for  
24           consideration from the industry as it relates to

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1 subsequent license renewal. As an industry, we  
2 believe that the regulatory structure that is  
3 currently in place, and the clear guidance and  
4 stability, it has provided the industry over  
5 previous years, has provided an overall benefit to  
6 the nation by fostering the continued safe use of  
7 non-greenhouse gas emitting electricity, and our  
8 comments today will focus on the strength of this  
9 structure as it would apply to subsequent license  
10 renewal.

11 In that regard, I would like to bring up  
12 our first issue for consideration. The existing  
13 license renewal process is very robust and  
14 comprehensive, and is transparent to all  
15 stakeholders. We believe -- the industry believes  
16 that the existing license renewal process, which  
17 identifies the important issues and actively  
18 solicits stakeholder input, will accommodate  
19 subsequent license renewal. This process  
20 identifies a wide range of potential environmental  
21 issues that are evaluated during the license renewal  
22 process as it relates to impacts, is open and  
23 transparent to stakeholders, and allows interested  
24 parties, both in the regulatory and public arena, to

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1 provide input during various stages for evaluation  
2 by the staff during the review process.

3 Second, the existing NRC regulations  
4 state the Commission's intent to review the generic  
5 findings in the generic environmental impact  
6 statement on a ten-year cycle. This review does  
7 solicit public input, and this process -- this  
8 established process -- provides stakeholders,  
9 including the NRC and licensees, and also others,  
10 with a stable and consistent structure for  
11 environmental reviews of license renewal  
12 application, in which the content of the  
13 applications, environmental report, and the  
14 regulatory standard for review are clear and  
15 well-understood. It further provides a predictable  
16 framework for consideration as to significant new  
17 information.

18 As such, the industry strongly  
19 encourages the staff to continue the structure for  
20 environmental review without change as it relates to  
21 subsequent license renewal, including specifically  
22 the review of generic findings in the GEIS on a  
23 ten-year cycle.

24 The third item for consideration is that

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1 the current license renewal process actively  
2 involves other regulatory agencies, particularly  
3 for the myriad of permits and approvals that are  
4 needed for continued operation, and who have the  
5 primary authority to set the conditions associated  
6 with these permits and approvals.

7 And as Mr. Wilson was saying earlier,  
8 about the entrainment, impingement, and thermal  
9 issues, we have federal and state agencies that set  
10 those conditions in the permits. And those  
11 conditions that they set in there are based on  
12 evaluations that they perform. So we strongly  
13 encourage NRC to take advantage of other agencies'  
14 expertise, and to leverage, rather than duplicate,  
15 these resources during subsequent license renewal.

16 Fourth, the established nuclear  
17 regulatory process as it relates to the GEIS, or  
18 Generic Environmental Impact Statement, and  
19 associated regulatory documents, includes periodic  
20 reviews and updates to reflect operating experience.  
21 In addition, the industry contributes to this  
22 process by sharing of lessons learned.

23 As previously stated about the ten-year  
24 review cycle for the GEIS, the agency also actually

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1 incorporates OE and lessons learned, and the nuclear  
2 power industry has a culture of continuous  
3 improvement, that we want to improve the quality of  
4 our applications, and we're continuously monitoring  
5 what goes on in the industry, and what the NRC's  
6 putting in the supplemental environmental impact  
7 statements. So therefore, this process that we're  
8 operating out of right now is a living process, and  
9 there's no need to change the regulations for  
10 subsequent license renewals.

11 Fifth, the NRC also has other  
12 independent avenues and processes, rather than  
13 license renewal, to ensure that emerging issues are  
14 addressed in a timely manner for protection of public  
15 health and the environment. In addition, other  
16 agencies, such as federal, state and local agencies  
17 have similar avenues to address emergent issues.

18 For example, NRC can issue orders for  
19 emergent issues, for the plant to take immediate  
20 actions, which has occurred over previous years. In  
21 addition, operational monitoring of regulatory  
22 compliance associated with federal, state and local  
23 programs occurs as a routine process, conducting  
24 business, thereby allowing for early identification

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1 and resolution of emergent issues.

2 In summary, emergent issues that  
3 necessitate changes to improve protection of the  
4 public health, safety, and the environment, during  
5 current plant operation, are addressed through other  
6 processes in a timely manner, rather than waiting  
7 until license renewal.

8 Finally, overall, no changes in the  
9 license renewal environmental review process have  
10 been identified as necessary at this time, although  
11 the industry is still awaiting the final version of  
12 regulations and regulatory guidance for the periodic  
13 update that is currently underway, and we understand  
14 the SECY paper came out today. And I kind of looked  
15 at that briefly, but we anticipate this current  
16 update will further strengthen and improve the  
17 process of the continued evaluation of impacts for  
18 continued plant operation.

19 In closing, as previously stated, the  
20 NRC's existing process is comprehensive and living.  
21 This process is transparent, and takes into account  
22 lessons learned, emergent issues, and stakeholder  
23 input. Although industry realizes that periodic  
24 updates will be an ongoing process, NRC's existing

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1 structure will meet that need during subsequent  
2 license renewal.

3 Thank you.

4 MR. RAKOVAN: Okay. Let's go ahead and  
5 go to our last panelist, Mr. Webster.

6 MR. WEBSTER: Well, thank you for the  
7 opportunity to be on this panel, too. I guess you're  
8 getting a little bored with hearing me spout off  
9 about these things, so I'll be brief.

10 First of all, I am very pleased to hear  
11 NEI's presentation. Even they think that SAMA  
12 should be included in the site-specific EIS, so I  
13 don't quite understand why the staff would be  
14 thinking about dropping this when the industry  
15 thinks it's a good idea.

16 Second of all, I'm very pleased to hear  
17 NEI say that the NRC should listen to other agencies  
18 when it comes to environmental issues, because I know  
19 for certain nuclear power plants, EPA has suggested  
20 and Fish and Wildlife has suggested that  
21 closed-cycle cooling should have been required by  
22 NRC, and NRC refused to require it.

23 So if NRC in future listens to NEI a bit  
24 more carefully, which -- I haven't noticed a lack of

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1 listening to NEI in the past, but I'm kind of amazed  
2 to come here and find that NEI's position is that,  
3 if EPA suggests closed-cycle cooling's a good idea,  
4 then NRC should require it.

5 Of course, I slightly disagree that  
6 everything's perfect so we shouldn't change it, but  
7 we should improve it. I do agree with that part of  
8 the presentation, we should improve it. We  
9 shouldn't make it worse. So removing SAMA from the  
10 analysis would be making it worse, so I'm very glad  
11 to see that we have substantial agreement between the  
12 intervenor community and NEI on a number of important  
13 issues.

14 I guess the bottom line, I think, with  
15 the nuclear industry, is if you're going to talk the  
16 talk, you've got to walk the walk. In other words,  
17 you can't keep going around saying "This is the most  
18 environmentally friendly way to generate power," and  
19 then refuse to do upgrades which make the generation  
20 of that power more environmentally friendly. So  
21 this is really the theme of my little spiel on this  
22 issue, which is "Let's see if we can walk the walk."

23 So the first issue is SAMA. You know,  
24 I say, after I wake you up a little bit, we must blast

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1 off from planet NRC and into reality. At the moment,  
2 under SAMA, environmental contamination is either  
3 valued at zero or at a tiny amount. Fukushima  
4 compensation, which is largely aimed at  
5 environmental contamination, is estimated between  
6 20 to 50 billion dollars. Now, if you change your  
7 number in your SAMA analysis from zero or a few  
8 million to 50 billion, that's going to make a big  
9 difference to the outcomes. And to suggest that  
10 you've already finished this analysis is completely  
11 ludicrous.

12 Second thing, on the consequence side,  
13 the estimates of consequence are, I think, probably  
14 somewhere between 100 and 1,000-fold too low. On  
15 the frequency side of things, I read a very good paper  
16 by Gordon Thompson showing that in reality, the  
17 accident frequency, severe accident frequency, is  
18 somewhere around ten times the assumptions in the  
19 SAMA analysis. It's ten times the output of the PRA.

20 So if we change our consequence number  
21 by about a thousand, and we change our frequency  
22 number by ten, that means we've got about a  $10^4$   
23 difference on the problem side, so that should make  
24 about a  $10^4$  difference on the solution side. And I

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1 think if you do that, you'll find your plants will  
2 look quite a bit different, and they will be a lot  
3 safer, which I think we all agree -- and I'm glad  
4 NEI's on board with this -- we all agree that they  
5 should be a lot safer.

6           The final thing, I'm in a proceeding  
7 right now, and one of the issues is there's a prison  
8 about 10 miles from the plant. And what  
9 sociologists are predicting is that, at the moment,  
10 the approach is if there's a severe accident,  
11 everybody else will be told to leave and the  
12 prisoners will stay there. And what sociologists  
13 are predicting, if that happens, there will be a  
14 prison riot. And if there's a prison riot, people  
15 will die.

16           The industry's position is "Oh, no,  
17 that's a psychological effect. That's not part of  
18 NEPA." Guess what, if somebody whacks you over the  
19 head with a chair, that's not a psychological effect.  
20 If someone attacks you to the point of  
21 unconsciousness, that's not a psychological effect.  
22 These kind of indirect sociological effects -- let  
23 me give you another example.

24           At Fukushima, when the evacuation order

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1 came at a hospital, most of the staff left, leaving  
2 some of the critical patients behind. Forty-five of  
3 those critical patients died. That's not a  
4 psychological effect, dying. That's a real effect,  
5 and that needs to be in these calculations.

6           You know, the criticism from the  
7 industry was "Oh, your sociological expert doesn't  
8 have any expertise in health physics." It's like  
9 "No, he doesn't." That's because he's not  
10 evaluating a health physics effect. He's  
11 evaluating a sociological effect." And those  
12 sociological effects must be in the SAMA analysis.

13           Closed-cycle cooling, I think we've  
14 covered that. It's pretty obvious. I mean, it's  
15 been a requirement for new power plants since around  
16 '72, I think. I question strongly why NRC hasn't  
17 required a closed cycle in this round of relicensing,  
18 even when EPA has recommended it. Even NEI think  
19 it's a good idea, apparently. So definitely, if  
20 there's going to be any next round, closed-cycle,  
21 minimum requirement. And apart from the fact that  
22 it actually does have some operational advantages.

23           You know, I need not point out, there's  
24 been an incident of jellyfish in the intake closing

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1 plants down. I think Salem got a yellow or white  
2 finding due to grasses clogging their intake, so  
3 closed-cycle doesn't just make Birkenstock-wearing  
4 environmentalists happy. It actually does both  
5 improve the environment and improve safety.

6 The GEIS, interesting topic. I guess I  
7 would suggest that the GEIS is woefully out of date,  
8 and indeed the scope of the GEIS is too big. For  
9 instance, evacuation planning issues, doing it on a  
10 generic basis, I'm looking at a plant in New York  
11 where there's 12 million people within 50 miles. I  
12 don't think the impacts in the GEIS are bounded --  
13 I don't think the GEIS bounds those impacts. But I  
14 can't say that in a proceeding, of course, because  
15 that would be against the rules. But I can say that  
16 here.

17 And this whole idea of GEIS as a bounding  
18 analysis, I think, just doesn't fly, you know, in  
19 certainly a lot of areas. So I suggest that we have  
20 to check, with each plant -- the theory I would  
21 suggest is, we have a GEIS, and then we check whether  
22 the GEIS is bounding. If the GEIS is bounding, sure,  
23 go with the GEIS. If the GEIS is not bounding, then  
24 site-specific analysis is needed.

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1 Environmental justice analysis. At  
2 the moment, it's being done incredibly poorly.  
3 Basically, it's run a few numbers, color in a few  
4 dots, say "Oh, will those dots be exposed more than  
5 any other dots? Oh, no. Well, in that case,  
6 there's no environmental justice problem." I mean,  
7 it takes no account of community conditions. Really  
8 doesn't properly address what would actually happen  
9 to environmental justice communities in a severe  
10 accident.

11 In fact, the NRC has said pretty much  
12 "Well, we don't analyze a severe accident for  
13 environmental justice, even though there is a  
14 requirement for SAMA." So environmental justice  
15 analyses must be improved dramatically.

16 I think Mary's already touched this.  
17 You know, I don't know where this came from, this  
18 whole "We'll compare it to a coal plant and make it  
19 look good" thing. It might have been a good idea in  
20 1960. I think its time has passed, kind of like the  
21 Mark 1 and Mark 2. You know, they looked good when  
22 they were first built, but they're looking a little  
23 thin now. And this similar sort of ruse is kind of  
24 ridiculous at this point, so I'd strongly suggest to

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1 the NRC that you're doing yourselves more harm than  
2 good by continuing to run that comparison.

3 And short and sweet, that's all I have.  
4 Thanks.

5 MR. RAKOVAN: Okay. Thank you to our  
6 panelists. I'd like to give the panelists an  
7 opportunity to react to each other's statements,  
8 build upon statements that were made, et cetera.  
9 And of course, we'll open it up for comments, and I'm  
10 pretty sure if the pattern continues we'll have Brian  
11 up here pretty soon at the podium, which is good.  
12 That helps facilitate discussion.

13 So, do any of the panelists want to build  
14 on each other's comments at this point?

15 Please, go ahead.

16 MR. BUCKLEY: Yes. Sometimes there's  
17 been a misunderstanding about intake structure  
18 technology, stuff like that the NRC should specify  
19 the technology to minimize impacts. I know the  
20 NRC's obligation under NEPA -- and you correct me if  
21 I'm wrong, Jeremy -- is that they're obligated to  
22 assess the impacts and to recommend mitigation  
23 measures only. But they don't have the authority,  
24 under the Clean Water Act, to specify what type of

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1 best technology available that plant has to install.  
2 That belongs to the permitting agency. So I just  
3 wanted to clarify that.

4 And there seems to be some  
5 misunderstanding as we go along, even at the state  
6 level, they've asked NRC "Will you tell them to put  
7 in cooling towers?" but you have no authority under  
8 the Clean Water Act to do that.

9 MR. WEBSTER: Yes, but under NEPA, the  
10 NRC could decide that because the licensee is not  
11 prepared to fit a closed-cycle cooling system, the  
12 environmental impacts are too great to allow  
13 relicensing to occur. So although they don't have  
14 the ability to specify the technology, NRC does have  
15 the right to withhold licensing for environmental  
16 reasons.

17 MR. SUSCO: Well, I just want to state,  
18 under NEPA -- it's a procedural act. So what it  
19 really requires us, in the case of license renewal,  
20 is to examine the impacts of license renewal. So  
21 we're not allowed, statutorily, to go beyond the  
22 limits of that procedural rule. So one of the things  
23 that we would do -- now, theoretically, you're right.  
24 We could find for some plant that the environmental

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1 impacts of license renewal are too great, and that  
2 would be our recommendation in the EIS. That's a  
3 theoretical possibility.

4 But what we do for every area -- we try  
5 to do for every area that we do find an impact, we  
6 also recommend mitigation alternatives to lessen  
7 those impacts. So again, it's a disclosure act.

8 MR. WEBSTER: But closed-cycle could be  
9 one of those mitigation technologies.

10 MR. SUSCO: Absolutely.

11 MS. LAMPERT: Also, I'd like to mention  
12 that in the Pilgrim's license renewal, we have two  
13 contentions that are before the Board now, and I  
14 think they speak to the quality of review done by the  
15 NRC, and also by the responsible federal agencies.

16 The NRC has failed to complete the seven  
17 consultation process under the Endangered Species  
18 Act for 10 listed endangered and threatened species  
19 at Pilgrim, contrary to the NMFS consultation  
20 handbook and recommendations and ESA regulations.

21 NRC staff and Entergy have failed to  
22 conduct a specific assessment of the impact of  
23 relicensing on a variety of endangered species, and  
24 most commonly and particularly on endangered species

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1 that the NRC knows is most commonly impinged at  
2 Pilgrim. And they haven't considered ways to avoid  
3 or minimize adverse effects to that endangered  
4 species.

5 NRC staff have failed to comply with the  
6 Magnuson-Stevens Fishery Conservation and  
7 Management Act of 1976 in implementing regulations  
8 -- their very own regulations -- in this regard. And  
9 I could go -- and there's another.

10 My point being that if you read the final  
11 impact statement, everything seems fine, but the  
12 work wasn't done. And so then that leads to the  
13 question, if the responsible agencies are not doing  
14 their jobs, then where do we go from there? It seems  
15 like it's not a priority?

16 MR. WEBSTER: Can I ask a question about  
17 SAMA? Is it really right that you're thinking of --  
18 A) don't you think Limerick Ecology requires it?  
19 And B) if it doesn't require it, why not? And C) even  
20 if it didn't require it, wouldn't it be a good idea?

21 MR. SUSCO: I'm not sure I understand  
22 your question and how it relates to second license  
23 renewal.

24 MR. WEBSTER: Well, I thought you said

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1 SAMA -- you were thinking about getting rid of it in  
2 second license renewal.

3 MR. SUSCO: We're not thinking about  
4 getting rid of it. What the regulation states is  
5 that, if you've already done it once, and we've  
6 already considered it, that you don't have to do it  
7 again.

8 MR. WEBSTER: No. Limerick Ecology is  
9 a Third Circuit case that says that NEPA, for a major  
10 federal action, for a nuclear plant, requires SAMA.  
11 You're not familiar with that?

12 MR. SUSCO: I'm familiar with it.

13 MR. WEBSTER: Okay. So do you think  
14 it's wrong? My interpretation of Limerick Ecology?

15 MR. SUSCO: I don't want to comment on  
16 your interpretation of --

17 MR. WEBSTER: Well, what your  
18 interpretation is -- is your interpretation that,  
19 for a major federal action, Limerick Ecology  
20 requires SAMA, or not?

21 MR. SUSCO: You're asking me if I think  
22 that if a court case requires that we should analyze  
23 SAMAs --

24 MR. WEBSTER: I am.

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1 MR. SUSCO: -- in license renewal  
2 review?

3 MR. WEBSTER: Yes.

4 MR. SUSCO: Yes. And I think that it  
5 does, and we do.

6 MR. WEBSTER: Okay.

7 MR. SUSCO: So that's --

8 MR. WEBSTER: So you won't be dropping  
9 it --

10 MR. SUSCO: We've done that for every  
11 single license renewal we've done to date.

12 MR. WEBSTER: Right.

13 MR. SUSCO: And I know what your next  
14 comment is going to be, and it's that we should do  
15 it for second license renewal.

16 MR. WEBSTER: Yes. I think you have  
17 to.

18 MR. SUSCO: Our regulation is pretty  
19 clear. And so I think where we can go as a takeaway  
20 from this is that you're asking us to examine that,  
21 is what I'd maybe say is the takeaway from this.

22 MR. WEBSTER: Well, which regulations  
23 -- excuse me. Which regulations would you cite to  
24 directly that say SAMA's not required on second

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1 license renewal?

2 MS. SPENCER: If you would look at part  
3 51, it's very --

4 MR. RAKOVAN: Could you introduce  
5 yourself, please?

6 MS. SPENCER: This is Mary Spencer,  
7 from the Office of the General Counsel. If you look  
8 at Part 51, 51.53(c)(2), and I'm going to have to --  
9 it's way down in there. It's actually being  
10 litigated right now. So if you're interested in --  
11 because certain plants that were licensed later,  
12 such as Limerick itself, the plant that's the title  
13 of the case that you're dealing with, Limerick  
14 Ecology in the Third Circuit, they're going through  
15 license renewal right now.

16 And one of the contentions is "Oh, they  
17 need to do a second SAMA analysis." Well, the way  
18 the regulation was written when we did Part 51 for  
19 license renewal, if you look at the 1996 GEIS  
20 rulemaking, there's a discussion. And this is being  
21 litigated now, because Limerick did not do a SAMA  
22 analysis as part of its license renewal application.  
23 The NRDC filed a contention, and that contention was  
24 admitted in part. And so this issue is likely -- is

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1 now with the Commission, and will likely have an  
2 answer of some sort to this issue at some point in  
3 the future as a result of that litigation.

4 But -- I don't really want to speak  
5 further, but --

6 MR. WEBSTER: Okay.

7 MS. SPENCER: -- the way the regulation  
8 is written right now -- and then there is a question  
9 of did the Commission give an adequate basis for the  
10 determination it made when it made the rule back in  
11 1996, but that's the way things are right now.

12 MR. WEBSTER: Okay.

13 MR. HOLIAN: And Mary, this is Brian  
14 Holian. For Pixie, I wanted to comment on that  
15 earlier, when Jeremy from the NRC said no to Pixie  
16 Lampert's question. I almost got up then, okay, to  
17 come over to the microphone, because I wanted to  
18 comment on -- I wanted him to say "No, according to  
19 our interpretation of the rule."

20 MS. SPENCER: The way it's written  
21 right now.

22 MR. HOLIAN: Yes, the way it's written.  
23 It's clearly our interpretation. Thank you, Mary.  
24 The way it's written, it has to be done once. But

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1 the point of this meeting is to go beyond that. I  
2 mean, to at least open up the discussion for that.  
3 So you know, Jeremy's answer was correct from an NRC  
4 clear interpretation of the rule, but we're here to  
5 ask that same question.

6 MS. LAMPERT: Okay. Here's the  
7 problem.

8 MR. WEBSTER: Mary, can we just --

9 MS. LAMPERT: Go ahead, Richard.

10 MR. WEBSTER: The second part of my  
11 question was, even if it's not required, wouldn't it  
12 be a good idea?

13 MS. SPENCER: Well, that's a policy  
14 issue. That's not --

15 MR. RAKOVAN: Mary, you've got to use  
16 the microphone. You're killing me.

17 MS. SPENCER: That's obviously a policy  
18 issue for the Commission to decide, but I don't think  
19 that there's -- I mean, I was just talking about where  
20 we are right now, what the regulation says, and that  
21 we are having litigation on that topic right now.

22 And then as a policy matter, look.  
23 There was a Watts Bar decision on that operating  
24 license, and there's an example of where the

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1 Commission said "You know what? We're not going to  
2 look at need for power for an operating license. If  
3 we looked at it in the CP stage, we're not going to  
4 look at it again." And the Commission said "Well,  
5 you know, in this particular instance, staff, we  
6 authorize you to look at need for power at the OL  
7 stage." So it can be a policy decision that's made  
8 by the Commission, but --

9 MR. WEBSTER: No, right.

10 MS. SPENCER: Absolutely.

11 MR. WEBSTER: I thank you for your  
12 clarifying answer, which was very helpful, actually.  
13 But I think we are here to make both legal comments  
14 and policy comments, and as a policy comment, I  
15 absolutely think -- and I hope staff would be  
16 recommending to the Commission -- that SAMA analysis  
17 should be part of any second license renewal.

18 MR. HOLIAN: That's when I almost  
19 jumped up to the microphone. This is Brian Holian  
20 again. I mean, Ms. Lampert's list of issues that  
21 she's seen on local plant SAMA analyses that were  
22 done at a certain point in time, and similar to the  
23 safety-type questions that we had earlier on, you  
24 review buried piping differently now, should you be

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1 reviewing previously-done-once SAMA analyses and  
2 updating them as time has gone on?

3 So I think it's a very fair question.  
4 The staff has that as an area to explore as a policy  
5 question with the Commission. I knew it would come  
6 up here again, but we do have that. We have that same  
7 question.

8 MS. LAMPERT: Yes. Well, I think --  
9 this is Mary Lampert again. It seems totally in  
10 conflict to Commissioner Apostolakis's leadership  
11 on PRAs post-Fukushima lessons learned. And  
12 pointing out again, when the full Commission voted  
13 that aqueous discharges, for example, are currently  
14 omitted in SAMAs, and that's wrong. They should be  
15 included. An example, Pilgrim is what I know best.  
16 The marine economy is worth over 14 billion dollars  
17 in Massachusetts. We have seen feed and bleed. We  
18 also know that atmospheric discharges wind up in the  
19 land, as we've seen in Japan. And it goes, slides  
20 down into the rivers, gets down into the groundwater,  
21 and there you have it.

22 And so that's a huge issue where it's  
23 being underestimated. Not to mention using a tool  
24 that the person who wrote the FORTRAN says is a piece

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1 of -- junk. That's the word I was looking for.

2 (Laughter.)

3 MR. RAKOVAN: Thank you, Ms. Lampert.

4 Mr. Lochbaum, go ahead.

5 MR. LOCHBAUM: This is Dave Lochbaum,  
6 with the Union of Concerned Scientists. I have a  
7 question for Jeremy. I was involved, years ago, in  
8 this Calvert Cliffs relicensing. I went to the  
9 draft environmental impact statement meeting down in  
10 the Solomon Islands. And I'm not that familiar --  
11 I knew what the situation was then, I'm not sure what  
12 it is now.

13 In those days, the draft environmental  
14 impact statement was somewhere from 250 to 300 pages.  
15 There was one paragraph in there, about a quarter of  
16 a page, that dealt with potential human health  
17 impacts from the plant's operation, and that was  
18 limited to EMF, Environmental Mechanical --  
19 Electromagnetic -- something electrical. There  
20 were no radiation effects at all. And when I asked  
21 a question about that at that time, I was told that  
22 those effects were out of scope.

23 Is that still the fact, that the draft  
24 environmental impact statement doesn't look at human

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1 health effects other than EMF?

2 MR. SUSCO: No, we absolutely do look at  
3 the environmental -- or sorry, the human health  
4 impacts of radiological impact. So it's -- those  
5 are all Category I issues in the GEIS, but what we  
6 do with every environmental impact statement is, we  
7 look for new and significant information that could  
8 possibly be outside the bounds of what was analyzed  
9 in the GEIS. And that is, we have a pretty extensive  
10 discussion in every single EIS of the last couple  
11 years, of monitoring the plants, and any sort of  
12 impact that could have on human health.

13 MR. LOCHBAUM: Was that changed since  
14 those days?

15 MR. SUSCO: I don't know if I can  
16 comment on that. I think it was -- the GEIS was the  
17 same, as far as I knew, back then. I'd have to go  
18 look at Calvert Cliffs to really be able to answer  
19 this question.

20 MR. LOCHBAUM: If it's the same, since  
21 Calvert Cliffs didn't address it, would the staff go  
22 back and revisit that, since they only looked at EMF  
23 for Calvert Cliffs?

24 MR. SUSCO: I don't know -- you're

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1 asking would we --

2 MR. LOCHBAUM: If the --

3 MR. SUSCO: -- bring it up now?

4 MR. LOCHBAUM: If the standards are the  
5 same, and you say the current standards look at  
6 health effects other than EMF, and it wasn't done at  
7 Calvert Cliffs, because I can go back and show you  
8 that it wasn't done, would you go back and redo it,  
9 since you didn't follow your process then?

10 MR. SUSCO: We would certainly do it if  
11 they came in with a second license renewal  
12 application.

13 MR. LOCHBAUM: But not until then?  
14 That's the question.

15 MR. SUSCO: No, not until then. But  
16 you also have to remember, license renewal isn't the  
17 only place where we look at human health impacts from  
18 every single plant. In fact, every single year,  
19 plants submit a report and let the NRC know what sort  
20 of effluents they're putting out in the plant. We  
21 take those, we examine them, and make sure that  
22 they're all still within the rules that are set forth  
23 in the Code of Federal Regulations. So it's  
24 something that we look at all the time.

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1 MR. LOCHBAUM: That's the data that's  
2 going out. There's no human effects about what that  
3 --- radioactive material that's going out gets  
4 reported every year, there's no connection whether  
5 there's anybody dying as a result of that. You never  
6 look at that, other than during some, apparently, of  
7 the EISes.

8 MR. SUSCO: Well, that's not exactly  
9 true. The rules for what effluent limits there are  
10 are based on human health impacts. So as long as  
11 they are underneath the limits that are set forth in  
12 the Code of Federal Regulations, then they will not  
13 impact human health.

14 MR. LOCHBAUM: That's the assumption.  
15 The point is, have you ever gone back and verified,  
16 for Calvert Cliffs, that that assumption is  
17 accurate?

18 MR. SUSCO: I don't know if we've done  
19 that since that EIS.

20 MR. LOCHBAUM: You didn't do it in the  
21 EIS. So, anyway.

22 MR. SUSCO: Okay.

23 MR. LOCHBAUM: Not to belabor the  
24 point. Thanks.

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1 MS. LAMPERT: Regarding health, could  
2 you address the fact of how up to date and what  
3 research you're basing health impacts on? BEIR VII  
4 I know is not used, and BEIR VII certainly seems like  
5 a fairly independent group of scientists. And also,  
6 they have found a far greater impact than previously  
7 assumed, greater impact on women than men, greater  
8 impact on children, obviously. And this has not  
9 been integrated into the dose response.

10 So when are these going to be updated?  
11 And not to say site-specific, the effect on, let's  
12 say the example of Pilgrim, where a case-controlled  
13 study in 1990 by the Mass Department of Public Health  
14 shows a fourfold increase in adult leukemia. So  
15 there's a difference from reactor site to reactor  
16 site on previous exposures and indication of  
17 radiation-linked disease.

18 So I suppose that's, in part, a two-part  
19 question regarding health, and how, in fact, you're  
20 basing your assessment of no impact.

21 MR. SUSCO: I have to apologize. I  
22 don't know if I could pick your questions out from  
23 your question there. What's the first part?

24 MS. LAMPERT: Okay. My question is,

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1 what are you basing -- what body of research, when  
2 was it published, on dose response consequence? Are  
3 you using BEIR VII, for example? I know you're not,  
4 but are you planning to use that as your standard on  
5 response?

6 MR. SUSCO: Mary, I've got to  
7 apologize. I'm not exactly the right person to  
8 answer that question as fully as I think you'd like  
9 it to be. We really need a health physicist to  
10 answer that question, who's very familiar with the  
11 basis for the Part 20 and Part 50 rules. So we can  
12 maybe take that as a takeaway.

13 MS. LAMPERT: As a takeaway for policy,  
14 it would seem reasonable to base response on the  
15 latest credible research, and I think the National  
16 Academies probably satisfies most people.

17 MR. SUSCO: Okay. I've got to say,  
18 this would definitely be a separate issue than second  
19 license renewal. What we're really talking about  
20 here is the basis for our Part 20 and Part 50  
21 radiation protection limits. And so that would --  
22 we're not going to challenge those as part of second  
23 license renewal, I don't anticipate. I know we  
24 won't.

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1 MR. HOLIAN: No. Brian Holian, adding  
2 on. Ms. Lampert, I'm also familiar with some of  
3 that. I know there's been some talk on the  
4 international community to come up to reference on  
5 some of those standards. I don't think in the room  
6 here we have the folks to talk to that, but where it's  
7 applicable generically, we'll take that question and  
8 add it onto our plate, and bring that back.

9 MS. LAMPERT: Thank you.

10 MR. REISTER: Richard Reister from the  
11 Department of Energy. I think there was a statement  
12 made earlier that closed-cycle cooling was better  
13 than existing technologies, and I guess I question  
14 that. There are environmental impacts from  
15 closed-cycle cooling: the water consumption doubles  
16 from closed-cycle cooling to once-through cooling.  
17 There are entrainment of water that gets deposited  
18 on the surrounding environment. There's visual  
19 impacts from large cooling towers.

20 So I guess I would just question that you  
21 can make a blanket statement that closed-cycle  
22 cooling is better than once-through cooling or other  
23 cooling technologies, or other ways of mitigating  
24 environmental impacts from cooling in general.

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1           So, I don't know if anybody wants to  
2 comment on that.

3           MR. WEBSTER: Sure, I'll pick that one  
4 up. I mean, generally, there may be desert  
5 environments, or very water-scarce environments  
6 where the water consumption is important. In those,  
7 I would anticipate moving toward some sort of  
8 non-water-cooled approach or other approaches that  
9 are much less water consumptive. Look for -- I think  
10 one plant uses waste water for cooling, for instance.

11           So the water consumption issue, I think,  
12 is sort of a red herring for nearly all situations.  
13 Certainly for coastal plants, certainly plants sited  
14 on large estuaries. Salt drift issues, generally  
15 exaggerated. The AP-42 emission factors on salt  
16 drift are generally recognized as being  
17 overestimates.

18           Aesthetic impacts? I mean, come on.  
19 It's a nuclear power plant. You know, it's not that  
20 beautiful in the first place.

21           (Laughter.)

22           MR. WEBSTER: So I think those are -- to  
23 be honest, I've run a few -- I was involved, actually,  
24 in commenting on EPA's 316(b) rules, and we ran a few

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1 profiles of how to do -- I mean, you can do really  
2 ugly cooling towers, and you can do sensible designs  
3 that minimize the impacts. And believe me, I'd far  
4 rather see sensible designs that minimize the  
5 impacts.

6 So I think, yes, obviously nothing is an  
7 impact-free activity. But on balance, I think --  
8 let's say that in the vast majority of situations,  
9 closed-cycle wins out on a net basis.

10 MS. LAMPERT: And may I add, Richard,  
11 that we're going forward. And it's clear that our  
12 fish, marine life, is becoming more and more scarce  
13 as the years pass, and that's what the predictions  
14 are, that it will continue. The endangered species  
15 list keeps increasing year to year.

16 And it doesn't take a marine biologist  
17 to figure out that in they go, and you've got a  
18 bouillabaisse going, and then that's spit out at the  
19 other end, usually up to 30 degrees higher, and the  
20 additional problem of not a requirement to measure  
21 the temperature of the discharge on a minute to  
22 minute basis. Rather, it's averaged, and lots of  
23 games can be played there.

24 So I don't know. It's not difficult for

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1 me to imagine this. And also, there's the security  
2 issue. There's an advantage, because we have a  
3 couple of boats, and it doesn't take a genius to  
4 figure out what could be put up that intake canal.

5 MR. RAKOVAN: Mr. Wilson?

6 MR. WILSON: Yes, let me add. I think  
7 from EPA's perspective, I don't think we'd say that  
8 a cooling tower is the best approach in every  
9 situation. I think there's a lot of water solutions  
10 that it provides, as far as the fish population. I  
11 do understand, it does decrease plant efficiency,  
12 and there are some drawbacks to it. So it's not a  
13 perfect solution. It's one of the solutions under  
14 316(b) in the Clean Water Act. But again, I would  
15 agree that it's best to analyze the costs and  
16 benefits to see if it's really the best approach or  
17 not. There could be other approaches.

18 MS. LAMPERT: Well, there's also the  
19 policy of "Do no harm." Not a bad way to look at  
20 things in the future.

21 MR. WEBSTER: Sorry, just to clarify  
22 that, Mr. Wilson. Isn't the analysis that the costs  
23 should not be disproportionate to the benefits,  
24 currently?

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1 MR. WILSON: That's the current  
2 approach, yes.

3 MR. WEBSTER: Right. So you're not  
4 doing cost-benefit for these things, right?

5 MR. WILSON: Well, if a state were to  
6 develop 316(b) requirements on their own, using  
7 their best professional judgment, that should be  
8 part of the equation. I would say that no, states  
9 don't have the staff, and the economists and people  
10 say that's typically not done. I mean, that will be  
11 part of our 316(b) rule when that's issued.

12 MR. WEBSTER: Right. I fully concur  
13 with that. The states don't have that. And that's  
14 one reason, I think, that the licensee and the NRC  
15 should help the states out on that, in terms of good  
16 quality analyses of these issues in the  
17 environmental side of the application.

18 MR. WILSON: And I'd say that's  
19 probably something that could be thought of more  
20 deeply under NEPA. I have to admit, I haven't seen  
21 one of the EISes for one of these projects, but I  
22 think in most cases, there are some more things that  
23 could be done under NEPA.

24 I'd have to say that I, personally,

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1 don't think NEPA's a cure-all. Having written  
2 permits for 21 years, I never saw a NEPA review that  
3 caused more stringent permit limits. So there's  
4 other purposes for NEPA.

5 MR. WEBSTER: Right. I mean, one of  
6 the ways -- this certainly can be a data-generating  
7 tool to give permit writers in the states the ability  
8 to write good permit limits. And I certainly  
9 support that.

10 MR. SUSCO: And you can see, there's a  
11 lot of difference of opinion here. This is, I would  
12 say, one of the reasons why water resource issues,  
13 why impingement and entrainment are not generic  
14 issues in our GEIS. They are site-specific issues.  
15 We evaluate them at every plant, because what could  
16 represent best available technology is going to  
17 entirely depend on the landscape. So it's why we  
18 don't evaluate it generically in the GEIS.

19 MS. LAMPERT: Isn't the bottom line  
20 money? It's going to cost a pile of money for  
21 current reactors to go to dry cooling, or cooling  
22 towers, or whatever? We saw that played out in New  
23 Jersey, and hence they decided "Please, please,  
24 please, don't make us do it. If you don't, we'll cut

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1 you a deal and only run 10 years on our extended  
2 license." So that's -- the bottom line is the bottom  
3 line, and so we hope that NRC, EPA, NOAA, et cetera  
4 will step up to the plate and do the job they're hired  
5 to do, which is to protect the natural resources.

6 MR. WEBSTER: Let me just say, on this  
7 generic versus non-generic, it's interesting that  
8 all new plants are required, on a routine basis, to  
9 have closed-cycle or some other technology that's  
10 even better than closed-cycle. So it's kind of  
11 interesting to me that, say, emergency planning can  
12 be done generically, when emergency planning -- you  
13 know, the number of people within 12 miles varies  
14 from about a few thousand to a couple of million.  
15 But this issue can't be dealt with generically.  
16 It's kind of amazing.

17 MS. LAMPERT: It would be better to be  
18 a fish.

19 MR. HOLIAN: This is Brian Holian. I  
20 had one other comment I had written down earlier, and  
21 Ms. Lampert, I think both you and Mr. Webster  
22 mentioned it. And I don't know if it's just related  
23 to, necessarily, the plants that you've been more  
24 closely following, but you mentioned comparisons

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1 just to coal plants. In the four years I've been  
2 here in license renewal, the final SEISes that I've  
3 seen have, I thought, done a pretty good job of what  
4 you were looking at, comparing it to a mix of  
5 alternatives. I think, Ms. Lampert, you mentioned  
6 that, with conservation entered in. I just wanted  
7 to recognize -- to see whether you recognize that the  
8 recent final SEISes have tried to do those mixes --

9 MS. LAMPERT: Right. I haven't seen,  
10 however, comparison of a brand new nuclear reactor  
11 -- not that I'm in favor of that -- to the current  
12 reactor. That would be quite interesting.

13 MR. HOLIAN: Yes, that one I haven't --  
14 I took a note on that, but I just wanted to comment  
15 on the other one.

16 MS. LAMPERT: Yes, I was aware of that.  
17 But I think the mix and conservation, I'll go back  
18 and check.

19 MR. WEBSTER: Well, actually, the most  
20 recent one I've looked at is Indian Point, which I  
21 think came out around the -- the final came out about  
22 -- I think there's still a supplement coming out  
23 soon, but I think the final came out around the end  
24 of last year, and actually Peter Bradford, a former

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1 Commissioner, wrote a very interesting affidavit  
2 supporting a contention basically saying that the  
3 NRC's EISes have been biased since the agency opened,  
4 and continue to be biased.

5 And so if you haven't read that, I highly  
6 recommend that as reading, because this is somebody  
7 who knows the process very well. He has been on the  
8 Commission. He has followed NRC in detail for many  
9 years. And I think it offers a very interesting  
10 perspective.

11 MR. WENTZEL: This is Mike Wentzel.  
12 I'm with the NRC. I did want to just clarify that  
13 we have looked at new nuclear as an alternative.  
14 We've done that with the Seabrook draft that we  
15 issued last year. We have also looked at a variety  
16 of other alternatives, including conservation and  
17 various demand-side management alternatives.

18 MR. WEBSTER: Can you clarify? Why did  
19 you decide to put new nuclear into Seabrook but not  
20 into any of the others?

21 MR. WENTZEL: Well, that was just one of  
22 the alternatives. We looked at -- we did look at  
23 coal. We looked at new nuclear. We looked at a  
24 combination of natural gas and wind, and those were

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1 just the ones that we looked at in depth. We also  
2 looked at -- considered numerous other alternatives.

3 MR. WEBSTER: Right. But why -- well,  
4 let me ask the question more, how do you decide --  
5 from plant to plant, how do you decide which  
6 alternatives are the most feasible at which plant?

7 MR. WENTZEL: Well, part of that goes  
8 into what -- we do take a look at what generating --  
9 what's in the pipeline, so to speak -- what various  
10 things are looked at. Obviously, there's no talk of  
11 new nuclear in the northeast region, but some of the  
12 determinations that we make are -- it's very  
13 difficult, obviously, to forecast 20-plus years in  
14 advance of what technology's going to be available,  
15 so what we do is, we try to determine what  
16 technologies are currently commercially available,  
17 or which we believe are reasonably foreseeable, so  
18 to speak, that will be available at the time.

19 MS. LAMPERT: It was interesting, we  
20 had ISO up here on two occasions, once before the  
21 Joint Energy Committee on April 6th, 2011, and  
22 another time in February at Cape Cod Community  
23 College, said unequivocally that Pilgrim and Vermont  
24 weren't needed because of the natural gas. I mean,

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1 that's only one consideration, whether you need  
2 something or not.

3 MR. WENTZEL: Right. Well, that gets  
4 into the need for power, which is not something we  
5 analyze as part of license renewal.

6 MR. RAKOVAN: Further discussion or  
7 comments on environmental topics before we check the  
8 phones, just to see?

9 (No response.)

10 MR. RAKOVAN: Julie, why don't we go  
11 ahead and see if anyone wants to be the first to speak  
12 on the phones today?

13 OPERATOR: Thank you. Once again, to  
14 ask a question, please press star-one. One moment.

15 (No response.)

16 OPERATOR: I am showing no questions.

17 MR. RAKOVAN: I'm sorry?

18 OPERATOR: I am showing no questions,  
19 sir.

20 MR. RAKOVAN: Okay. It was worth a  
21 shot. Thanks, Julie.

22 Do we have any other discussion on the  
23 environmental aspects of subsequent license renewal  
24 that we want to talk before we just kind of open it

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1 up to any other closing comments or additional  
2 discussions that we want to have before we close  
3 today?

4 (No response.)

5 MR. RAKOVAN: Brian or Melanie, did you  
6 have any other questions that you wanted to throw  
7 out?

8 (No response.)

9 MR. RAKOVAN: Okay. Does anyone have  
10 any last-minute topics or points that they thought  
11 of subsequent to discussions, that they wanted to  
12 toss out before we move to closing? We certainly  
13 have a little bit of time to do so, if you'd like to  
14 throw anything out?

15 Okay?

16 MR. WEBSTER: Let me just say, I wanted  
17 to just thank the staff for putting this meeting on.  
18 I think it's actually kind of a useful meeting,  
19 perhaps somewhat to my surprise.

20 (Laughter.)

21 MR. WEBSTER: It's been more useful  
22 than I thought, so thanks very much for putting it  
23 on, and it's been a pleasure to participate.

24 MS. LAMPERT: I'd echo the same. I

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1 appreciate it, and I hope some of these comments were  
2 of value to you, and particularly the process  
3 comments, from the perspective of pro se, I think,  
4 puts me in a very different category. And so, thank  
5 you for the opportunity, and hopefully you heard some  
6 of our comments. A few were quite dismaying,  
7 particularly about the SAMAs, very distressing.

8 MR. HOLIAN: Well, this is Brian  
9 Holian, Director of License Renewal. I just had a  
10 couple things to say. Yoira, our Branch Chief in  
11 License Renewal is on to close the program, and she  
12 will. I think she's got some prepared thoughts.  
13 And as I mentioned, I wasn't sure I'd be back in time  
14 for this meeting, but on behalf of Melanie and I,  
15 Melanie Galloway, who was the Acting Director over  
16 the last few months and was helping to organize this,  
17 we're thankful just to get the meeting on the plate  
18 of the public.

19 The way it worked out, I know it's been  
20 a long three quarters of a day. Maybe there were  
21 better ways to do it, maybe we take a topic at a time,  
22 but I am glad for the experts who stayed around here  
23 today. Each of you -- I could list you by name, but  
24 I thank you.

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1 I thank you for the other federal  
2 organizations that have come along. A little bit  
3 easier for NEI and the utilities, so I don't thank  
4 them as much. How about that? They're closer to  
5 the NRC offices, it seems.

6 Ms. Lampert, just the way it came  
7 across, I'm thankful for the staff who set up this  
8 area here. You came across loud and clear on the  
9 phone. You probably don't know that, but I'm  
10 telling you you did, and it was very easy to hear and  
11 understand that.

12 I did want -- the one thought I had,  
13 before I turn it over to Yoira, was that I know some  
14 of the groups might wonder, is it only up to you to  
15 raise the types of questions that you raised today?  
16 I think you mentioned it a couple of times, "NRC  
17 staff, do you have it on your plate to raise those  
18 kind of questions?" And so hopefully you heard some  
19 of that today, that we've also been struggling with  
20 some of these same issues: SAMA, Ms. Lampert, you  
21 mentioned that. The rule says that, but what is the  
22 correct policy to bring forth? So we thank you for  
23 that.

24 Yoira?

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1 MS. DIAZ-SANABRIA: Good afternoon.  
2 I've been waiting the whole day to speak. Finally,  
3 it's my turn. I hope that we had a very good and very  
4 productive day today. We appreciate your time. We  
5 appreciate all the panelists that participated  
6 today, as well as the members from the public. Ms.  
7 Lampert, who is on the phone, I appreciate your time  
8 as well. I just want to mention one thing that is  
9 being posted here, is how the public can provide  
10 written comments to these public meetings. And you  
11 can provide it by the email address posted here. I'm  
12 going to say it out loud, so people on the phone can  
13 hear me. It is SLR.Resource@NRC.Gov.

14 So any comments received by May 25th are  
15 going to be part of the meeting summary of this public  
16 meeting. However, you can submit your comments at  
17 any time to this email address. So, I encourage you  
18 to submit your comments, and I appreciate one more  
19 time for your time, and safe travels to those that  
20 are going to be away from here.

21 Thank you.

22 (Whereupon, the above-entitled meeting  
23 was concluded at 3:51 p.m.)  
24

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