

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**

Title: Meeting on License Renewal for 40 Years  
of Additional Plant Operation

Docket Number: (n/a)

Location: teleconference

Date: Thursday, February 18, 2021

Work Order No.: NRC-1378

Pages 1-59

**NEAL R. GROSS AND CO., INC.**  
**Court Reporters and Transcribers**  
**1323 Rhode Island Avenue, N.W.**  
**Washington, D.C. 20005**  
**(202) 234-4433**

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

+ + + + +

MEETING ON LICENSE RENEWAL FOR 40 YEARS OF  
ADDITIONAL PLANT OPERATION

+ + + + +

THURSDAY,

FEBRUARY 18, 2021

+ + + + +

The meeting convened via Videoconference,  
at 9:00 a.m. EST, Angela X. Wu, Facilitator,  
presiding.

NRC STAFF PRESENT:

ANGELA X. WU, NRR/DNRL/NLRP, Facilitator

ANNA H. BRADFORD, NRR/DNRL

ALLEN L. HISER, JR., NRR/DNRL

HECTOR L. RODRIGUEZ-LUCCIONI, NRR/DNRL/NLRP

ALSO PRESENT:

JAN BOUDART, Nuclear Energy Information Service

CHRIS EARLS, Nuclear Energy Institute

ERICA GRAY

PAMELA GREENLAW

PAUL GUNTER, Beyond Nuclear

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

MARVIN LEWIS

P R O C E E D I N G S

9:00 a.m.

MS. WU: Good morning, everyone. This is Angela Wu with the Nuclear Regulatory Commission. Welcome to today's public meeting on license renewal for 40 years of additional plant operation. It is 9:00, so I think we're going to go ahead and stay on track, get started -- starting with our opening remarks. I would like to introduce Anna Bradford, the director of the Division of New and Renewed Licenses in the NRC's Office of Nuclear Reactor Regulation.

MS. BRADFORD: Thank you, Angela. Can you please confirm you can hear me?

MS. WU: I sure can. Thank you, Anna.

MS. BRADFORD: Okay, great thank you. So as Angela mentioned, my name is Anna Bradford. I am the director of the division whose purview includes the renewal of operating licenses for nuclear power plants. I am happy to welcome you to this meeting today. We're here to get your thoughts, perspectives, and comments on whether the NRC should consider the possibility of extending the time period for renewed licenses of nuclear power plants from 20 years to 40

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

years. We're looking forward to hearing from stakeholders and the public so we can inform our decision whether to pursue work on this topic.

We held a related meeting four weeks ago that some of you may have been at, in which we discussed whether the NRC should consider the technical issues related to 100 years of nuclear power plant operation. So the duration of 20 years for license renewal was established in the initial rulemaking back in 1991, and as Allen Hiser will describe in a few minutes, the statements of consideration for that rulemaking stated that the 20-year limit might be removed if the Commission has sufficient confidence in the adequacy of licensing programs to detect and resolve in a timely manner any unforeseen age-related degradation.

So now with the extensive experience that we have with license renewal, with 94 renewed licenses and 350 years of operation beyond the original licensed period at 40 years, the question for today is whether the NRC should consider revising the duration from 20 years to 40 years. And I want to be clear, we have not decided to revise the duration. The comments we receive today from the industry and from the public

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

will help inform that decision.

And the second part of the question posted for this meeting is a conditional question. If we decide to revise the 20-year duration, what changes should we make to the license renewal program to ensure that all plants will continue to provide reasonable assurance of adequate protection of the public health and safety during the period of the extended operation. So today's meeting is to gauge public and industry feedback in general on this topic, not to get detailed input -- if we decide to continue consideration of revising the duration from 20 years to 40 years, then we would likely have additional public meetings in the future to get more specific public and industry input. So with that, I look forward to the discussion today. I will now turn the meeting over to Laura Gibson, the Branch Chief for the License Renewal branch -- oh, I'm sorry. Let me reverse myself. I will now turn the meeting back over to Angela Wu, who will be our facilitator today. Thank you, Angela.

MS. WU: Thank you so much, Anna. Good morning again. My name is Angela Wu. I am a project manager with the NRC, and your facilitator today.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Today's meeting is a Category 3 public meeting and members of the public will have an opportunity to comment after the short NRC presentation. This meeting is being transcribed so that we can capture all of your comments. When speaking, please state your name and affiliation for the court reporter. Also, so that you are aware, no regulatory decisions will be made at today's meeting.

Let me first start off by acknowledging that we had a fair number of technical difficulties at the related January meeting last month. You'll note that we have switched platforms, so I am hoping it won't be as rough this time around. Nevertheless, we may still have some hiccups. So we thank you in advance for your patience.

We prefer that you participate in today's meeting through the Webex platform, but you do not have to. Webex is the easiest way for us to know if you would like to make comments. You can find the information on joining by Webex on the public meeting notice. To make a comment, please raise your hand on Webex. You can see the option to raise your hand on the bottom right of the attendees panel. If you are having difficulty finding it, or using it, please feel

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

free to send a chat message to one of our hosts and we can do our best to help you with that.

The Webex chats will also only be visible to our hosts. It is not an open forum. This allows us to better track your concerns and questions. If you do not have access to a computer, you can participate in today's meeting through the phone line.

The phone line is not moderated because we anticipate that most of us will be participating through Webex. So, however, because the phone line is not moderated, we'll have to extend some basic courtesies. Please keep you line muted until I ask for public comments over the phone. Thank you so much.

Once again, if you would like to make a comment, we participate that you participate in today's meeting through Webex. But if that is not possible, we can make it work. During the comment period of today's meeting, we will first start off with participants on Webex, and then turn it over to the phone line.

Again, please introduce yourself with your name and affiliation before speaking. And I think now we are just about ready for our first -- our only presentation from our senior-level advisor, Allen

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Hiser. Allen, if you're ready, I can turn the meeting over to you.

MR. HISER: Okay, thank you Angela.

MS. WU: Awesome.

MR. HISER: Let's see if we can get the slides going. Okay. What I will do -- and thank you again, Angela and Anna, for your opening remarks. What I will do is just provide an overview of license renewal considerations. And -- and considerations that we would need to make for 40-year license renewal. The agenda -- sorry. The --

(Pause.)

MS. WU: We can see your presentation, Allen.

MR. HISER: Okay. Can you see just the cover slide?

MS. WU: Yes.

MR. HISER: Okay. I'm trying to go to the next slide, and it's not allowing me to do that.

(Pause.)

MS. WU: I see the next slide now.

MR. HISER: Okay.

MS. WU: Okay, thank you so much.

MR. HISER: I tell you what, let me get

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

off of video. That may be part of the problem. Okay.

Now the -- the outline of what I will discuss today is provided here. First I will speak a little bit about the meeting purpose, and the questions that -- that we included in the agenda. Talk about the license renewal rule, and the process that we do to review license renewal applications. And then also some potential topics for 40-year licensed renewal, should we choose to pursue that. For more information, you can check this other presentation that was made four weeks ago that has a little bit more detail on the technical aspects of the review.

Okay, so for today's meeting -- the purpose was -- as Anna mentioned, was to establish a public dialogue related to license renewal. And in particular, extending the time period for renewed licenses from 20 to 40 years. The -- couple of the questions that we had -- that first for plant owners and operators -- whether there's an interest in license renewal for 40 years, and how likely would you utilize this approach? Second, more for the general public and stakeholders, what should the NRC take into consideration when considering whether to change the limit of the license renewal to 40 years from the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

current 20 years. And in particular, if a decision is made to -- to pursue regulatory and process changes for 40-year license renewal, what collateral changes should the NRC make to the license renewal program to ensure that all plants will continue to provide reasonable assurance of adequate protection of the public health and safety during the period of extended operation?

Now the limits to license renewal for 20 years -- there are two -- two related items that provide limits. First of all, Section 103.c of the Atomic Energy Act limits licenses to plants to 40 years. So the initial licensing for plants is -- covers the first 40 years of operation. And if we issue renewed licenses, they also can extend beyond 40 years. So that's one of the limits that's in place. In addition, 10 CFR 54.31(b), which is in a part of the license renewal rule, caps the additional period covered by renewed licenses to 20 years. And again, the Atomic Energy Act limit still holds that the renewed license may not exceed 40 years, and that includes the remaining time on the current license, plus any license renewal period. So for example, the current license is 20 years -- 21 years remaining,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

then the license renewal period would only be for 19 years.

Now the Statement of Considerations in 1991 had two -- two statements that relate to this 20-year limit. The first statement is that the Commission may revisit the issue in the future as experience with licensee performance in managing age-related degradation during the renewal term is gained.

And in addition, if the Commission has sufficient confidence in the adequacy of licensee programs to detect and resolve in a timely manner any unforeseen age-related degradation, then the 20-year limit may be removed. What we're here for today is to discuss whether that is something that the NRC should pursue.

Now just to look at the current status of licensing for the operating fleet, at present we have 94 operating units in the U.S. We've also, coincidentally, renewed licenses for 94 units. Unfortunately, eight of those units have ceased operations. So at present, we have 86 units that have renewed licenses. Of the eight units -- of the eight units that have your original 40-year license, two of those -- Diablo Canyon Units 1 and 2 -- will shut down in 2024 to 2025. We have 82 units that have renewed

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

licenses to operate for 60 years. And then four units that have subsequently renewed licenses that are good for 80 years -- and those are Turkey Point and Peach Bottom -- two units each.

At present, we have 55 units with 48 of those operating that have entered their 41st year of operations. So they've gone from their initial licensed 40-year period into the period of extended operation. The first of these was in April 2009. So almost 12 years ago. Over that time we have more than 350 reactor years of operation beyond the initial 40-year licenses.

The SLR application status is given here.

We have three applications that are -- we're currently reviewing. One of those is for the Surry Power Station, one is for the North Anna Power Station, and a third is for Point Beach. We do have one expected application. That's for Oconee Nuclear Station, Units 1, 2, and 3 -- and I am told that their application actually has been delayed until June. So at present we have a fairly active review inventory of SLR applications.

So given the success of license renewal, why are we interested, or considering, license renewal

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

for 40 years? The first is -- is to -- really, to increase the efficiency and effectiveness of the license renewal program. If we had 40-year license renewal, then applicants would need to prepare only one application to cover the 40-year period instead of preparing and submitting two applications. With this one application it promotes continuity in plant implementation of aging management programs for the entire 40-year period, that way the plants would not need to potentially make changes just due to a new application at the mid-year point of the 40 years, and they could focus on maintaining their aging management programs as living programs, and implement operating experience from a plant and from the industry to ensure that the plants -- or the programs would continue to be effective.

From the NRC perspective, the staff review of one application for 40 years would be -- instead of reviewing two -- would enable us to focus more on oversight of AMP implementation. So we believe that may be one benefit that we would have coming out of this. The basis for the license renewal rule -- again, 10 CFR Part 54 -- is provided in several documents. First, the Statements of Consideration

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

from the 1991 Rule, described in Federal Register Notice -- it's listed there, which was published in December 13, 1991. And there are statements in there that -- that -- regarding considering -- reconsidering the 20-year limit that's in the current rule. NUREG-1412 provides foundation for the adequacy of the licensing bases, and that's one of the fundamental premises of license renewal -- is that the current plant licensing bases are adequate and need to be maintained during the period of extender operation. In addition there's the statement of considerations for the 1995 rule that modified the license renewal rule, and that's provided at the Federal Register notice that's listed there.

Now the license renewal reviews is -- is a limited-scope review. And it's described in 10 CFR 54.4. The focus is on managing the effects of aging, in particular, this is for long-lived, passive structures and components that are important to plant safety. Now the -- as I mentioned -- license renewal review is limited-scope. Ongoing, regulatory oversight items are outside the scope of license renewal. These would include things such as emergency planning, security, current safety performance and --

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

and plant responses to a variety of external events, such as flooding, or earthquakes. That's a part of the current licensing basis and the current regulatory process.

Now once we receive a license renewal -- or a subsequent license renewal application, as indicated on the left-hand side, the review actually splits into two pieces. First of all, we have an environmental review, which is conducted in accordance with 10 CFR Part 51. That's along the top. On the bottom we have a safety review, which is conducted in accordance with 10 CFR Part 54.

The -- for both the environmental review and the safety review, the public has opportunities to request hearings, and should those hearings take place, then they would be implemented in accordance with 10 CFR Part 2.

Now, once the environmental review reaches its completion, and (audio interference) has made a decision, and once the safety review has been completed and we've gone through our Advisory Committee on Reactor Safeguards, and they have reached a -- they recommend approval of the renewed license, then the NRC is able to make a renewal decision for

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

the plant. The one thing that's important is that the hearings are completed and -- and resolved at that point as well. So once these three pieces come together -- the environmental review conclusions, the safety review conclusions, and the hearings are resolved, then the NRC is able to finalize its decision and approve the renewed license.

Now the application review has several pieces to it, as I mentioned. First is submittal of the application. This includes an integrated plant assessment which provides all of the aging management information. And I'll talk maybe in a slide or two in a little bit more detail on that -- but not too much detail. Also, environmental information is provided in the -- in the application.

Now the safety review has three pieces to it. First is a technical review, where the staff reviews the information provided by the applicant and reaches its determination. Then there are regional inspections. For subsequent license renewal this is in accordance with Inspection Procedure 71003 Phase IV. And the third piece is review by the Advisory Committee on Reactor Safeguards.

Now the environmental review, as I

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

mentioned previously, is in accordance with 10 CFR Part 51. And in -- it involves an environmental impact statement. And there will be more details on that review in a few slides. Once all of these pieces are completed, then we are able to reach an agency decision and ultimately, if we find the application to be acceptable, then we issue the renewed license.

Okay, now for the safety review, we have certain guidance documents that support that. The first one is the Generic Aging Lessons Learned Report, or the GALL Report. For subsequent license renewal this is the GALL-SLR report and is NUREG-2191. The GALL report provides assessments for aging management review, including identification of materials, environments, and aging affects that require management. The GALL report also identifies acceptable aging management programs to age manage the effects that have been identified in the Aging Management Review. In some cases plants also need to implement plant-specific programs based on their individual operating experience.

Now the Standard Review Plan, which for subsequent license renewal is NUREG-2192, provides guidance for the staff review of scoping and screening

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

that's in the application, the Aging Management Review, and also time-limited aging analyses. And if you go back to the presentation from January '21, it will provide a lot more detail on the staff review of those items. Now these -- both the GALL report and the SRP are amended through Interim Staff Guidance process. And this would be either the license renewal ISG process, or the SLR ISG process. And these revisions are based on operating experience, or lessons learned from review of licensed renewal applications, or subsequent license renewal applications. And -- and the -- I guess the key part to remember is that the GALL report is not the report that is originally issued, but it has to -- it is amended through this ISG process. So the ISGs are treated just like they're in the printed version of the GALL report and the SRP.

Now a -- a fourth document is Regulatory Guide 1.188, Revision 2, and this describes an application format for applicants to use and endorses NEI guidance on nuclear energy institute guidance. It's provided in NEI-95-10 for license renewal and NEI 17-01 for subsequent license renewal.

In an analogous way, we also have some

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

review documents that are related to the environmental review. First is the licensed renewal generic environmental impact statement, which is NUREG-1437, Rev. 1. And this identifies NEPA issues that could result in generic or nuclear plant-specific environmental impacts. And also it provides the technical basis for the summary of findings on NEPA issues that's codified in Table B-1 of Part 51 of the regulations.

Regulatory Guide 4.2, Supplement 1, Rev. 1, describes preparation of the environmental reports for nuclear power plant license renewal applications, and provides guidance to ensure that the completeness in information that applicants provide in their environmental reports. The Standard Review Plan, NUREG 15-55, Supp. 1, Rev. 1 provides guidance to the staff in preparing nuclear plant-specific supplemental environmental impact statements. In addition -- you know, which supplement the license renewal GEIS report.

In addition, we have a Continued Storage Generic Environmental Impact Statement related to continued storage of spent nuclear fuel. And this in GEIS, the environmental impacts of continued storage

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

of spent nuclear fuel beyond the original licensed life or operation of a reactor, are those impacts that are identified in this report.

Okay, the environmental review has several pieces to it. First of all the 10 CFR Part 51.20(b)(2) and 51.95(c) require preparation of an environmental impact statement for license renewal. As I mentioned previously the -- what we call the GEIS, Generic Environmental Impact Statement provides the technical basis for determining which license renewal issues are common to all plants and can be addressed to generic -- can be addressed generically.

The SEIS, or Supplemental Environmental Impact Statement, is prepared for each license renewal application to focus on the plant-specific issues and information that could challenge the general conclusions that are reached in the GEIS, or -- challenge the generic conclusions. Both the GEIS and the SEIS address 20-year licensed renewal terms. So they are not configured at this point to address 40-year renewals.

Now the -- the NRC periodically reconsiders the conclusions that are in the -- the license renewal GEIS. This -- the Appendix B to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

Subpart A of Part 51 says that the NRC will consider changes that may be necessary on a 10-year review cycle. The previous revision was completed in June 2013 and the Federal Register Notice of that is indicated there. For the -- for a current update of the GEIS we are -- they've initiated scoping a potential update in August of this year. Again, Federal Register notice is listed. This details the results of the NRC's review and invited public comments and proposals for other areas that the NRC should consider to be updated. Solicited input as to whether the GEIS update should consider license renewal impacts for going beyond the 20-year license renewal term, and up to a maximum of 40 years consistent with the consideration that we have in this meeting today. Following the staff's review of comments, we expect to publish the results of the environmental scoping process in the spring of 2021.

Hang on one second. Okay. In addition to the review activities that we talked about -- the safety review and the environmental review -- we also have inspection activities that the NRC implements. Now, the listed activities that are listed here -- the first three in particular apply to all plants during

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

all operating periods. The first 40-year license any renewed licenses as well.

So first of all, we have resident inspectors that are on site. And at least two resident inspectors are assigned to each site. And these inspectors perform the core of the NRC inspection program for nuclear power plants.

In addition, we have regional inspectors. And these are specialists from the four regional offices that we have. And they conduct a number of routine inspections at each plant during the course of the year. We listed 10 to 25. The number varies by plant, varies by year, varies by what is going on at the plant. But that's an approximate number. In addition, we can implement team inspections. And these team inspections may consist of resident or regional inspectors and can be augmented to include staff from headquarters. And these team inspections which focus on one specific topic during the inspection.

Now for license renewal more specifically, we have two inspection procedures, IP 71002, which relates to the license renewal inspection during the review of the initial license renewal application. So

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

this would be the application that would renew the license from 40 to 60 years. In addition, we have an inspection procedure that relates to post-approval site inspection for license renewal. For subsequent license renewal in particular, Phase IV of this inspection -- which is entitled implementation inspection -- is conducted about five to ten years into the period of extended operation and reviews the plant implementation of AMPs.

Okay, now the standards for approval of new licenses are provided here at 10 CFR 54.29. And specifically actions had been identified and have been or will be taken such that there's reasonable assurance that the plant operation, authorized by the renewed license, will continue to be conducted in accordance with the CLB. And as outlined here, the actions are -- with respect to managing the effects of aging, and also the time-limited aging analyses that I mentioned earlier. In addition to -- to that safety-related conclusion, the requirements for environmental review must have been satisfied. And any consideration of commission rules and regulations in adjudicatory proceedings, or the hearings that I talked about earlier, have been resolved. So these

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

are the three -- three pieces that are required for us to be able to approve a renewed license.

Now the specific way that we issue the renewed license is described in 10 CFR 54.31(c). Specifically a renewed license will become effective immediately upon its issuance, thereby superseding the operating license previously in effect. So this means that, in effect, sort of a layman's way of to look at it, is that the original license is now null and void and the renewed license becomes the license that is implemented for the plant and authorizes operation for the original license period, plus the renewed license period.

So what is needed to enable 40-year license renewal? First of all, there are possible revisions to the regulatory framework. For example, the 20-year license renewal limit that's in 10 CFR Part 54. That would require revision to enable a 40-year license limit. Modifications to the environmental review. As I mentioned before, the GEIS currently covers 20 years, and that would need to be updated to cover 40 years. Potential modifications to the safety review -- this could include both changes to the application contents, and also the review

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

process that NRC goes through to review the application. In addition, as I mentioned previously, the GALL-SLR report is identified aging effects in management programs that are acceptable for 80 years of operation. So if a plant were to apply to go beyond 80 years, we would need to potentially update the GALL report to address technical issues that could occur up to 100 years. And to identify appropriate aging management approaches to address those aging concerns.

In terms of inspections and oversight, one question could be the need for additional oversight with elimination of the 20-year application review. What changes could be necessary and how would those be implemented? But that's for the future. That's if we decide that we're -- we want to pursue this.

So if some -- I've listed here some related links to reactor license renewal, guidance documents, guidance for license renewal and subsequent license renewal, the ISGs that I mentioned, and also the status of applications for license renewal and subsequent license renewal. If you have additional comments at the end of this meeting, feel free to send those to me at my email. It's at the bottom of this.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

And we will get those included in the meeting record.

And finally, in the presentation, some acronyms and initialisms to identify the things that were in the presentation. And I guess what I would do at this point, Angela, is I will turn it back to you and I will leave on the screen the questions that we posed for the public meeting.

MS. WU: Awesome, that is perfect. Thank you so much, Allen. Once again, this is Angela Wu with the NRC and your facilitator. We are now at the industry and public comment portion of the meeting. As I stated before, we're first going to start off with the participants on Webex, and then move over to the phone line afterwards. On Webex, please raise your hand if you have a comment. And I continue to ask that you keep your phones muted until it is your turn to speak. We also ask that all commentators keep your comments brief -- about three minutes each -- to ensure that we have enough time to hear from everyone.

If we end up running out of time, or if we encounter significant technical difficulties and are unable to get to everyone's comments, please send us any additional comments by email after the meeting. We do want to hear from everyone.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

So we do have first -- first two commenters are welcome. Chris Earls of NEI and Paul Gunter from Beyond Nuclear. We will first start off with Chris. Hector, could you please unmute Chris's line?

(Pause.)

MR. RODRIGUEZ-LUCCIONI: Chris has been unmuted.

MR. EARLS: Hello, Angela. This is Chris. Can you hear me?

MS. WU: I sure can, thank you.

MR. EARLS: Awesome. Thank you to the staff for having this meeting. As always, we appreciate the opportunity to interact with you and discuss these issues. Today I will primarily be addressing the first question, and that has to do with the operator's interest in license renewal for 40 years. For those of you who participated in the January meeting, my comments today are probably going to be very similar to what I said then. I want to start off by saying that I am not aware of any plants or utilities that are actively considering a license to 100 years. That's just really not on anybody's radar right now. As I mentioned in January, I see

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

that as a discussion that will occur potentially in 10 years or more. So as a result, for today's discussion, when we're talking about extending the license to 40 years, there are no plants considering the combination of an SLR with a -- a license to 100 years. So that's, again, something that's just not being discussed or on our radar right now.

So I will say that there has been at least one utility that has considered the option of combining an initial license renewal with a subsequent license renewal. However, I believe that that utility has -- has taken that option off the table because of timing and that sort of thing. Beyond that, I am not aware of any other utilities that have had any active discussion of this.

So -- so right now I would say the industry's interest level is low. Though I'm -- it's more to a curiosity level, I would say. And as a result, you know, NEI is pretty much taking a neutral view on this effort. We're not opposed to it. We're not actively supporting it either. It's just something that, like I said, is more of a curiosity right now and not something we're pursuing. And that's all I really planned to say today, unless

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

there's any questions.

MS. WU: Thank you so much, Chris. I think we can move on to our next commenter, Paul Gunter from Beyond Nuclear. Hector, if you don't mind unmuting his line, please.

MR. RODRIGUEZ-LUCCIONI: Paul has been unmuted.

MR. GUNTER: Thank you. Yes, my name is Paul Gunter. I'm with Beyond Nuclear. And you know, I think NEI's comments are very interesting. You know, similarly our comments today largely are built on the foundation of our comments on January 21st meeting, which looked at the -- running these operating licenses out to 100 years. But doing it with these 40-year intervals -- it's just an -- you know, an extreme that NEI even admits to being incomprehensible. And that's certainly true for the public interest community. You know, we're -- we're recognizing that the industry is having a very difficulty -- a lot of difficulty in envisioning a bridge to the future, given the financial collapse of the so-called nuclear renaissance. And that these small modular reactors, and other mirages, in -- for future development, you know, are -- are still very

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

off in the distance. But our concern remains that the industry and the agency have not really explained the genesis of this whole conversation.

And so it's a little -- like, we're looking through a keyhole of a door that, you know, doesn't build confidence in the public trust of -- of what's -- what's transpiring here. But there -- again, there are two key areas that build our opposition to this proposal. In particular for the 40-year extension. And that being that we've seen the documentation. We recognize that it's being obfuscated as well. We're working through the Freedom of Information Act to reveal some questions that have been raised through the National Laboratory and other science independents that basically say that the -- the aged management programs for the current 20-year interval, you know, have raised a lot of questions with regard to how you're benchmarking your safety reviews into the license extension periods for the 20-year period. So to move the goal posts now out to 40 years when the -- you still have -- we've identified through your reports that you've got questions with regard to significant safety-critical knowledge gaps

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

about the projecting your -- your computer models into these -- the 20-year license extension period, particularly for the subsequent license renewal. And you know, why -- you know, the -- we're having to resort to the Freedom of Information Act to look at meetings that you in the industry, and EPRI and the DOE have been holding behind closed doors. And you know, the genesis of this conversation still appears to be behind a closed door. It -- it raises a lot of -- a lot of concerns.

You know, one of the questions that you're going to have to deal with is -- has yet to be litigated even. Particularly with the 2013 GEIS, the Generic Environmental Impact Statement. That was specifically developed for the initial license renewal period, and you're using it for the -- the subsequent license renewal to go out to 60 to 80, and now you're moving this discussion even farther out. And you know, given that the rest of the nuclear industry around the world is still advancing its license extensions much more conservatively, that the -- the U.S. industry and the U.S. regulator to go out to such extremes is -- it's really flabbergasting.

So you know, we are opposed to the -- this

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

-- you know, this venture, as nebulous as it is right now. But it -- it remains a concern on what's really in the planning stages, what's really in the genesis of -- of these conversation of when -- when even the industry is incredulous of its development. That will conclude my remarks for now.

MS. WU: Thank you so much, Paul, for your comments. Next we will go to WebEx for any raised hands. If you have a comment or a question, please feel free to raise your hand on WebEx. The staff and myself are monitoring that. I see one. Jane Boudart, go ahead, unmute your microphones.

(No audible response.)

MS. WU: Hector, do you mind helping out to unmute Jane?

MR. RODRIGUEZ-LUCCIONI: I'm looking for a green to -- here it is.

(Pause.)

MR. RODRIGUEZ-LUCCIONI: For some reason I cannot unmute him.

MS. WU: Okay, we're going to go on and move to the next person. We'll get back to you, Jane, once we figure out how to unmute your microphone. Next we have Pamela Greenlaw. Could you please unmute

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

your --

(Simultaneous speaking.)

MR. RODRIGUEZ-LUCCIONI: Yes, that's -- Pamela is the one that I am talking about that I cannot unmute. Sorry.

MS. WU: Okay, so let's go Pamela first, and get back to Jane afterwards.

MR. RODRIGUEZ-LUCCIONI: I am going to go Boudart, then.

MS. WU: Whichever one works for you.

MR. RODRIGUEZ-LUCCIONI: Yes, Boudart, it's unmute.

MS. BOUDART: Hello, I think you can hear me now.

MS. WU: Yes, we can. Hello.

MS. BOUDART: Right. Okay, I am Jan Boudart and I am with the Nuclear Energy Information Service. I have a fairly brief comment, and I want to deal with the subject of embrittlement. This is in terms of aging management. I did an -- I did an investigation of this a few years ago, and I looked at the embrittlement of a Japanese -- a Japanese nuclear power plant called Genkai. And after Fukushima, when they were trying to restart their nuclear fleet, there

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

was a -- a particular reactor vessel at Genkai 1 -- and I think there were two -- there were two reactor vessels at Genkai, and this was number 1, and they did not even consider the idea of reactivating that particular reactor because of embrittlement.

They had taken coupons from the reactor vessel that were tracking that -- by taking these coupons, physically, out of the reactor vessel that had been placed there for this purpose, they found that the reactor vessel was much more embrittled than their algorithms. And their computer -- well, their algorithms, had predicted. So there is a graph of Genkai 1 showing the difference between the predictions and the actual embrittlement of the reactor. And because of this, they -- they decided that they would not even attempt to restart Genkai 1.

So I was waiting -- and because Chris from NEI has been a little bit secretive about which -- which reactor he was talking about, when he said one utility is considered but was taken off the table because of timing, I -- I don't know which he mentioned -- was referring to, but I think it was Point Beach. And -- but I don't know.

But I was waiting for a coupon to come out

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

of a certain reactor that had a huge reputation for being embrittled. That was to have been taken out in 2019. And because of what I knew about Genkai, I was really waiting for that. And it turns out, they never took it out and tested the embrittlement of that reactor. They went along with their computer predictions, and that particular reactor is at Palisades, and they are going to close it down in 2022, which was the excuse that they used for not taking out the coupon, because it's an expensive test, and they have to -- you know, crack the coupon, and see how embrittled it really is and do a -- so, anyway, I was waiting for that and it never happened.

Now, these coupons were set up in these reactor vessels for the life of the first extension, which is 40 years. If the life of the reactor vessel is extended to 60 years, or 80 years, there won't be enough coupons to do a real test of the embrittlement of the reactor for that length of time because that's not how they were set up. So they will be forced to depend on their algorithms, which have been shown to be deficient. The algorithm doesn't really give you how embrittled the reactor is. You really need to have a coupon, take it out, crack it, and test how -- you

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

know, how much force does it take to crack it? I mean, how embrittled is it? I can't remember the name of that test. But I watched it on a video. It was really extraordinary.

So I -- I think that -- am I done? I think that what I want to complain about is that there's no way to predict the embrittlement of a reactor into these long, extended periods. And the -- the -- and the -- earthquake danger, or all the other dangers of cracking that reactor vessel are -- I mean, even if one -- and there are many out there. If even one cracked, it would be an extreme catastrophe for our future. So that's my comment about embrittlement.

And I think it's an extremely important issue. Thank you.

MS. WU: Yes, thank you so much for your comments, Jan. We appreciate hearing from you. Next we can go to our next participant with a question -- Pamela Greenlaw, I think -- did you figure out how to unmute your microphone?

(Pause.)

(Simultaneous speaking.)

MR. RODRIGUEZ-LUCCIONI: She's unmuted --

MS. WU: -- you can also press star 6 to

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

unmute.

MR. RODRIGUEZ-LUCCIONI: Pamela is unmuted now.

MS. WU: Okay, perfect. Pamela, can you hear us?

MS. GREENLAW: I can hear you.

(Simultaneous speaking.)

MS. WU: And we can hear you.

MS. GREENLAW: You can -- because my microphone has a slash through it, so it's really weird. Anyway, thank you very much for -- for being patient. And thank you for changing the platform because the other one absolutely didn't work. And I applaud you for making this change. It's much better.

I have a couple of questions. When you -- when you talk about changing regulations, who was in charge of actually making the changes? Is that the NRC recommending to a congressional office, and then having that become law? How -- because if -- yes. How -- how is that -- referring to that -- it came out during the environmental review, the EIS -- 10-year review, and you mentioned something about changing regulations?

(Pause.)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

MS. BRADFORD: Hello, this is Anna Bradford from the NRC. Thank you for that question. Because it's our own regulation, we can actually change it ourselves without needing to go to Congress.

Of course, there's a -- a long process to change regulations. We would have to get the approval of our own commission -- the five commissioners that are in charge of our agency. And then there would be future opportunities for public input, and those sorts of things. So it would be --

(Simultaneous speaking.)

MS. GREENLAW: Right.

MS. BRADFORD: It would be a lengthy process, but we do pretty much control it ourselves.

MS. GREENLAW: Okay, and that -- and that's -- that's the question, when we look at these -- you know, the word regulations, public is not sure if they're internal, or -- you know, yours, or if they have to go higher than that. Okay.

My other -- my other point is -- how will the NRC guarantee a rule change, or rule creation -- or other policy means to broaden your reach and access to these kinds of meetings. People who are without technological access -- that's easy -- people without

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

broadband, particularly EJ communities and rural areas -- they cannot access these sorts of meetings and have very -- a lot of difficulty responding. So when we get to, you know, EIS concerns -- environmental impact statements and scoping -- they don't even -- they're not even aware of these meetings. And when someone makes them aware, they're like, well how do you find that out? Well, Federal Register. What's that? I'm just trying to make ends meet, you know? And so one thing that -- actually is something I think every area of the NRC needs to look at and may -- may need to go up to the -- your Board of Commissioners, and that is to send post cards to areas surrounding these plants when you're doing EIS scoping and EIS development. Because really NEPA demands that. And I am seeing this happen over, and over, and over again in everything that NRC is trying to work on. And so when you say the stakeholders, there is a minimal outreach to stakeholders. It's online only -- to people who can't get online. So I am talking about an environmental justice issue and -- I know that this scope of this meeting does not necessarily include that, except that when you bring up NEPA, there it is. It's staring at us in the face. And communities will

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

ask for these sorts of things from NRC and the commitment -- there's always an assurance, oh yes, well we'll be in touch. And -- and you're not able to do that, I think, because of your policies and your traditional planning. I know you can't answer that today, but what my question is here is, will you send that up the chain of command? That --

MS. BRADFORD: Hello this -- this is Anna Bradford again. I just -- thank you for that comment.

That's helpful. I mean, we try to reach out and -- and be as accessible as possible, especially in NEPA when trying to communicate with people near those sites. So yes, we will -- I -- I can assure you that we will pass this on to our Environmental Management team. They're not here on this call today because, like you said, that --

MS. GREENLAW: Right.

MS. BRADFORD: -- isn't really the focus of this call. But I will pass that on to them as something to think about when they're communicating with locals near sites. So thank you for that comment.

MS. GREENLAW: Well, I appreciate it because it's -- it's not -- it's not an idle comment.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

And I know you're not taking it that way. But all the -- all the NRC meetings I've been on -- not this one, but the 100-year, and others before, and I bring it up and nothing -- nothing changes because of the bureaucracy is in. I mean, everybody can die, we'll all be replaced by new people, and this process won't change if there's not a push to that. So that's -- that's something I was hoping, you know -- maybe offline we could talk about -- to whom we should direct petitions or letters or something.

MS. BRADFORD: Okay.

(Simultaneous speaking.)

MS. GREENLAW: I have -- I have an additional question, if there's time. But if there's someone else, I am going to let them go ahead and I'll come back. Thank you.

MS. BRADFORD: Okay, can I -- can I just mention one more thing. We do have public feedback forms specifically related to our public meetings. I don't know if you've seen those. Where you can provide feedback on how the meeting was conducted, how the meeting was communicated -- that might be another channel. So I'll just -- I'll just put that out there for you. But yes, we can move on to next commenter,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

thank you.

MS. GREENLAW: Yes, you're going to put that up for all of us today -- can you put that in the chat for us?

MS. BRADFORD: The public comment form?

MS. GREENLAW: Yes. Not the form -- but access to the form.

MS. BRADFORD: Let's see if we can dig that up, and if so, we'll put it in the chat.

MS. GREENLAW: Very good, okay, thank you for doing this. Appreciate it.

MS. BRADFORD: Sure.

MS. WU: Thank you so much, Pamela. I would like to ask that if you've already made a comment, please go ahead and lower your hand on WebEx so that we know you don't have an additional comment.

If you have an additional comment, feel free to keep it raised and we'll get back to you for your second round. Next I do see that we have a comment from Marvin Lewis. Hector, could you please unmute Marvin's phone, please?

MR. RODRIGUEZ-LUCCIONI: Marvin -- Marvin is unmuted.

MS. WU: Marvin, go ahead.

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

MR. LEWIS: Hello, can you hear me?

MS. WU: Yes, we can. Hello.

MR. LEWIS: I can barely hear you. My first comment is that this conference stinks as far as the technical -- getting the sound to people. I'm screaming into my e-phone -- iPhone and I can barely hear you. I hope you are hearing me better than I am hearing you.

(Simultaneous speaking.)

MS. WU: We can hear you very clearly.

MR. LEWIS: Yes, I'm an electrical engineer and I am glad that the young lady before me brought up Charpy hardness testing. It's -- you've -- you've -- it's been a farce as far as the Charpy hardness testing is done on the coupons and -- and seldom sent out to the public. The other thing -- the thing I'm going to point out right now is that you want to not put on another 40 years or so to make it 100 years. Well I am telling you right now, you don't -- you haven't been able to predict crap as far as I can see. Right now, there's a weather in Texas -- snow storms, wind storms, et cetera, that's endangering a couple of nuclear power plants down there. And they're not able to keep up with their

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

demands because of it. Wonderful predictions, I tell you. I am really in awe of the NRC and the nuclear industry's predictions. That's sarcasm, if you didn't catch it.

Okay, now, I've got a lot to say about this one. We're -- we are poisoning the entire earth with radioactivity -- radioactivity that we haven't seen since the sun first erupted -- since the sun first appeared in the universe. Long before I was born. I'm -- this is a -- this is astounding. Here we can't even find a geological repository for the radioactive waste that we have produced, and we're making plans to keep on producing them for another 40, 60, or 100 years. Talk about great planning. Again, another example of sarcasm. All right, thank you very much for listening to me. Good bye.

MS. WU: I appreciate that. Thank you so much, Marvin. If you have a comment or a question, please go ahead and raise your hand on WebEx and we'll be able to identify and open up your phone line. I am not seeing anyone at the moment. If that's the case, I think we can now take the opportunity to turn to the phone. Anyone on the phone have a question? We can unmute the lines, which will unmute all the phone

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

lines. And I know we'll have to be cautious not to speak over one another, but if you have a comment or question, please identify yourself on the phone line.

(Pause.)

MS. WU: Okay, hearing none -- I do see another raised hand. It's Pamela Greenlaw again on WebEx. Hector, do you mind unmuting Pamela, please?

MR. RODRIGUEZ-LUCCIONI: She's --

(Simultaneous speaking.)

MR. RODRIGUEZ-LUCCIONI: She's unmuted.

MS. GREENLAW: Hello. I'm unmuted. You can hear me then?

MS. WU: Yes, we can hear you. Confirmed, thank you.

MS. GREENLAW: Fantastic, okay. The -- the -- I -- I'm trying not to be angry. I understand why Marvin was angry in -- in his call. The only reason all this effort would be made to consider extending licenses to 40 years is so that you can go ahead and do it. You would not have put in the time, the money, the effort, if you weren't already going to do this. The public dialogue helps you check the box that you reached out to the public. And it's not -- it's not a personal thing. I don't want you to take this

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

personally. This is the way the bureaucracy is set up is the bureaucracy created to keep itself going. And none of the explanations for why 40-year licenses hold any water.

And my -- my question is, how -- and it -- I would like an answer. This is not sarcastic. How can extending a license through two generations guarantee more so accountability to the public? And accountability for inspectors and for those in the program?

MS. BRADFORD: Thank you. This is Anna Bradford again, division director of the NRC. I do want to assure you, we have not made a decision to move forward on this. We're still discussing --

(Simultaneous speaking.)

MS. GREENLAW: Of course --

MS. BRADFORD: -- the costs and benefits, honestly, about whether or not this would be something that would be worth doing. The decision has not been made. In terms of how would we assure responsibility, you heard Allen on one of his slides talk about what we would need to think about if we did revise the license term duration from 20 years to 40 years. And so we're thinking about, what if anything would we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

need to accommodate or compensate for? And one thing we think is that the inspections -- the inspection program might need to change a little bit in order to make sure that we're keeping eyes on what the reactors are doing, and making sure that they're maintaining public health and safety. So maybe the inspection program would change to account for the fact that the term is longer now, and we would want those resident inspectors out looking at -- at different things.

So there would be some -- I -- in my opinion, if we decided to do this, there would be some compensating changes in other parts of the regulatory framework to make sure we can maintain that reasonable assurance.

MS. GREENLAW: You know, I hear a lot of words but -- I don't -- that isn't answering my question. If you think that you would have to have more accountability later, why don't we -- why are you not considering improving the inspection programs now?

It just -- this -- that -- that doesn't make sense that, I'm going to do better in the future, and I am going to wait for the future to improve the inspection program. So I -- I'm sorry, Ms. Bradford, I -- I understand you're repeating what -- what Allen had

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

said. But that's -- it's not holding water.

And the other thing is, once -- and this is the way the rules are, I believe -- And if I am wrong, please correct me -- that accountability to the public -- you're having these meetings because you're required to have meetings with the public. And -- would -- would you not -- with an extended license, that means two generations will go by before the public is -- is required to be included in commenting on scope, And so on, because you're going to -- it's going to be -- again, it will be a two -- two generations before a license comes up again. And only -- And that -- at that point, you'll look for scoping comments from the public. This does not make sense to me. If you want to include the public, you don't make them wait two generations. You stick with what works.

Can you tell me how that's going to be more beneficial for accountability to the public to go 40 years rather than keep it at 20 years?

MS. BRADFORD: Sure. This is Anna again.

And let me just tell you that because we're at the beginning of the process of thinking about this, I don't know all the details of how to respond to your question, except to say that public feedback is one of

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

the things that we're thinking about that might affect our decision in terms of the costs And benefits. If one of the costs is that there's less ability for the public to participate over time, then that is something we would think about. So we do -- that is something we will consider when we're -- when we're talking about possibly extending the license term.

(Simultaneous speaking.)

MS. GREENLAW: Okay, got it.

MS. BRADFORD: Because we do value public input.

MS. GREENLAW: Yes, because public input right now is at a minimal. And it's already not working well. I know -- I go on ADAMS And I look at the thousands of comments about some of those -- some of the NRC's ideas, such as the -- allowing the low-level -- very low-level nuclear waste to go to hazard -- you know, exempt hazard dumps. And -- just the idea on its face -- it -- you know, it is -- is -- you know, to use a word someone else used earlier, flabbergasting. And this is another one of those ideas that less accountability -- or less ability for the -- for the public in the future when there's already less ability for the public to be involved

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

now. I don't know. It -- that -- it makes me angry  
And I -- I think that that -- oh, that is a huge cost  
because your stakeholders -- people who live around  
these plants And near the plants, cannot just pick up  
And move. They can't just go. They're stuck. And  
this is how they become the environmental justice  
communities.

MS. WU: Thank you -- thank you so much,  
Pamela for your second round of comments. I just  
wanted to -- I did want to take that opportunity to  
let everyone know that we have included the meeting  
feedback form in the chat if you guys were interested  
in providing feedback for today's meeting. We also  
have the slides available on the public meeting  
announcement. And if you have trouble accessing  
either of those documents, please feel free to email  
us And we can get that information to you.

So I just wanted to put that out there  
because I know that was discussed previously. It  
looks like we have an additional comment from Jane  
Boudart. Pamela, if you could please lower your hand  
so that we know you already have asked -- or made your  
comment. Thank you very much. Jane, I think -- oh,  
Hector could you please unmute Jane's microphone,

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

please?

MS. BOUDART: Thank you. My name is Jan.

And --

(Simultaneous speaking.)

MS. WU: Oh, I'm sorry Jan.

MS. BOUDART: It's okay.

MS. WU: Thank you for correcting me. I would just keep going on And calling you Jane -- I'm sorry.

MS. BOUDART: It's all right. Most -- many people do that. I get called Pat, strangely. Okay, the reason I want to come back is because I have a general comment about the word stakeholder. The word stakeholder has no meaning because every single human being on earth has become a stakeholder in nuclear power. From the time of the accidents at Kyshtym, early -- early in the development of the -- of the nuclear project in the Soviet Union. And you can read about this in Kate Brown's book called Plutopia. Everybody has become a stakeholder. The amount of illness caused by radiation worldwide has increased because of the release of radiation into the atmosphere -- into the water, into the soil -- that has been uncontrolled. Everyone has become a

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

stakeholder. And everyone is a stakeholder in these nuclear power plants because the amount of -- the amount of dispersion of radiation around nuclear power plants has not been adequately measured. And from Chernobyl there were stakeholders in Finland, Norway, And even in New England. And the stakeholders from the explosion -- the hydrogen explosions at Fukushima, And now the water running under Fukushima And running into the ocean -- the stakeholders are the whales. They're the dolphins And the fish And the -- And the octopus -- the octopi in the ocean. There is no meaning to the word stakeholder. And to confine that meaning to people who have invested in nuclear power is appalling Because everybody has become a stakeholder. I don't think the word stakeholder should ever be used unless we are going to say that the stakeholder means all of us. And I am not just saying humans. The stakeholders have become whales. And we don't know what their culture is like. We don't know what they know.

So we are not able to evaluate how they are being affected by radiation, let alone the fact that we're not even tracking it among humans. So please desist with using the word stakeholders unless

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

you're going to define it as the entire biologic world. And I believe I'd even include the earth because global warming And -- you could -- you could go to the -- Beyond Nuclear And look at the -- the Scottish conference where Linda Pentz Gunter -- it's Paul's wife. I mean, he's here. He's been speaking.

She discussed the fact that global warming has been partly caused by the nuclear project.

So -- so there's global warming. A lot of glaciers are melting. This releases a tremendous amount of weight from various tectonic plates -- like the one under Greenland, or the one under Antarctica.

And the earth is going to react with -- with earthquakes in the future. So the earth itself is a stakeholder. Okay --

(Simultaneous speaking.)

MS. BOUDART: And also, you know, when you talk about stakeholders, women are bigger stakeholders than reference man. Women are more affected by radiation. Children are more affected by radiation. And the fetus is the most affected by radiation. And I am not talking just about humans, I am talking about a fetus of the whales or the elephants. So --

MS. WU: Right. Thank you so much for

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

your comments today.

(Simultaneous speaking.)

MS. BOUDART: Well wait a minute -- wait a minute. I am actually not finished, if you -- but I could come back because I have another comment about generations through time. And --

(Simultaneous speaking.)

MS. WU: Okay. We do have a couple of hands up. But I appreciate that.

MS. BOUDART: Let me just say -- I will make it really brief. Generations through time. If we do not pay attention to the Native Americans, they're the ones who understand how to pass information down through generations. We need them to talk to us about how we're going to handle all of these tons of spent fuel. It's their -- they are stakeholders in a big way. Okay, I am out. Thank you.

MS. WU: Thank you so much. Next we have Erica Gray. Could you please unmute Erica's line please, Hector?

(Simultaneous speaking.)

MS. GRAY: Hello, can you hear me?

MR. RODRIGUEZ-LUCCIONI: She's -- yes, we

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

can.

MS. WU: Yes, we can hear you Erica.

MS. GRAY: Boy, I'm in Virginia, And we're having severe ice storms here. I had some other people I know that could not get on either. It took me a while to be able to even get on the line because we didn't have electricity. I think this is really undemocratic. Texas participants cannot even get online. I mean, heck, they're freezing out there. I just -- I have a problem with this. If the NRC had to have been in the meeting today, this meeting would have been rescheduled. I just think it's very undemocratic. A lot of people cannot participate. So are you all going to do an extension to this meeting so that people can actually participate? Because I see that this is a -- a Category 3 meeting. So is there going to be another one?

MS. WU: Thank you so much, Erica. At this time we do encourage everyone to still send in comments or questions to the emails noted on the public meeting announcement. But at this time, there are no plans for a separate meeting.

MS. GRAY: Okay, so will this meeting -- will this be -- will -- will I be able to see what the

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

presentation was? Because obviously I wasn't able to get online until right now.

MS. WU: Yes. This is Angela again. We do have the presentation available on the public meeting announcement in ADAMS. And we have no number on WebEx, but if you guys would like me to speak it And share with you here, it is ADAMS Accession Number M-L-2-1-0-4-2-B as in boy 8-7-9.

MS. GRAY: I'm sorry, I -- that was intermittent for me. Can you repeat that?

MS. WU: Sure thing. The slide presentation is available at ADAMS Accession Number M-L-2-1-0-4-2-B as in by 8-7-9.

MS. GRAY: Okay, well -- And then I guess basically, since I'm just an overall -- a whole talk And everything, my only comment is it's very undemocratic to have meetings where a large portion of the population cannot participate. And the other thing, basically, is it's a slight of hand to try to turn 20-year increments into 40. I highly oppose it.

And I believe it will be on the NRC And all you guy's heads when we have an accident here in the United States. I'm very disappointed. And we don't have confidence. South Texas admits it was offline proves

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

that nuclear energy is not reliable. So the older these plants get, we're going to have a problem. That's all I have to say.

MS. WU: Thank you so much, Erica. I think we have one additional raised hand on WebEx. Hector, could you please unmute Paul's line -- Hector?

MR. RODRIGUEZ-LUCCIONI: He's unmuted.

MR. GUNTER: Thank you -- yes, thank you.

This is Paul Gunter again with Beyond Nuclear. I'm wondering if Ms. Anna Bradford could answer a question with regard to the -- my comment. And -- on the genesis of this meeting And the January 21 meeting. You know, it's particularly more of a concern given that NEI in their comments today said that there is no industry interest. So -- you know, we're essentially sitting around -- And we're wondering why the NRC is convening these conversations And how the NRC is funding this review when there's no apparent interest from the industry to do so.

MS. BRADFORD: Sure, this is Anna Bradford from the NRC. Thank you for that question. So the first thing I will say is, is yes we understand, you know, based on this meeting And the previous meeting, that -- that the industry is not sure they're

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

interested in it. But we don't do things solely because the industry is or is not interested in it. We also need to think about our agency And what we need to do to be able to do our jobs effectively And efficiently. So the genesis of this discussion of moving, maybe from 20 years to 40 years, was truly an internal discussion where we were looking at our processes as any, you know, company or agency does -- And takes a look to see, is -- is there something -- we've been doing this for a while. Is there ways to improve this? Make it less burdensome on ourselves? Make it less burdensome for those that use this process? And this was one idea that we came up with.

Maybe now is the time -- you saw earlier in the presentation that the Commission said back when we first established this rule, that after we have some experience with it, that maybe we should revise the 20-year duration. So we thought, maybe now is the time to look at it And say, should we revise the 20-year duration to 40 years? So it's really the result of an internal look at the way we do things to see if it could be improved, given the experience that have now with the process.

MR. GUNTER: And who -- again, whose

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

budget -- what -- what division's budget is covering the cost of this review?

MS. BRADFORD: So we have -- within the Division of New And Renewed Licenses, we have budgeted funds for licensing support And -- And activities in which we basically look at our own guidance documents And processes to decide if they need to be revised. So it's kind of our own normal process for which we budget.

MR. GUNTER: Thank you.

MS. BRADFORD: Sure.

MS. WU: Thank you so much, Paul, for your comments, questions. At this time, I would like to go to the phone lines. If you have a question, please identify yourself. Hector, can you ensure that we have unmuted all the phone lines?

(No audible response.)

MS. WU: Okay, I am --

MR. RODRIGUEZ-LUCCIONI: I think people -- I think people on the phone line, they can unmute themselves by pushing asterisk -- star 6.

MS. WU: Right. So if you're on the phone line And Hector has already unmuted you to unmute your own line, please press star 6 on your phone. We'll

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

give you a minute so that everyone is able to have opportunity to do so.

(Pause.)

MS. WU: Okay. It does not look like we have any comments or questions on the phone. And I am not seeing any additional ones on WebEx. We are just about closing to our meeting that's going to go for, not 10:30. We want to start with our closing remarks.

(Pause.)

MS. BRADFORD: Thank you, Angela. Again, this is Anna Bradford. I want to thank everybody who's participated in the meeting today. I thought we got a -- good comments about a wide spectrum of topics. And we always make better decisions when we have input from a wide range of stakeholders. And I am sensitive to the comment about stakeholders And what we mean when we say that And -- And who that includes And doesn't include, including biological aspects of our planet that could be affected. So thank you for all the comments. I will ask if you have additional thoughts afterwards, or, if you weren't able to for some reason, comment today, you are welcome to provide comments to Allen Hiser. We

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

provided the contact information in his presentation.

You can also reach out to Scott Burnell who talked earlier today from our Office of Public Affairs. And as I mentioned, we have not made a decision whether to move forward on this. After this meeting here today, we're going to have some internal deliberations on whether we want to proceed And let me assure you that if we do proceed, there will be additional public meetings on this topic. So if the decision is made that we want to continue to investigate, there will be other opportunities for public input, not just the opportunity that we provided today.

So that's all I wanted to say, Angela. Thank you, And everyone please have a great day.

MS. WU: Thank you very much, Anna. Again, just to reiterate, if you have any additional comments or questions, please feel free to email us. If you have difficulty finding any of the documentation discussed today, the presentation slides, the meeting feedback form, let us know. We know --

(Simultaneous speaking.)

MS. WU: -- joining -- I'm sorry, is someone speaking?

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

(No audible response.)

MS. WU: I think someone might have just unmuted their phones by accident. What I was saying was, if you had any difficulty finding any of the documents we discussed today, the meeting feedback forms, the slide presentations, if you have any additional comments or questions, please feel free to email us. Email Allen Hiser who was listed on the public meeting announcement, or Scott Burnell from our Office of Public Affairs. We're happy to hear from you And we appreciate everyone's efforts to join our meeting today. We do know there is some crazy weather out there And we want everyone to stay safe. Thank you very much, And I hope you all have a great day.

(Whereupon, the above-entitled matter went off the record at 10:25 a.m.)

**NEAL R. GROSS**

COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701

**NEAL R. GROSS**  
COURT REPORTERS AND TRANSCRIBERS  
1323 RHODE ISLAND AVE., N.W.  
WASHINGTON, D.C. 20005-3701