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NUCLEAR REGULATORY COMMISSION

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PUBLIC MEETING TO DISCUSS THE PART 53 RISK-INFORMED, TECHNOLOGY-INCLUSIVE REGULATORY FRAMEWORK FOR ADVANCED REACTORS RULEMAKING

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WEDNESDAY

MAY 25, 2022

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The meeting convened via Video/Teleconference, at 10:00 a.m. EDT, Bob Beall, Facilitator, presiding.

PRESENT

BOB BEALL, Facilitator

BRAD BAXTER, Office of Nuclear Security and Incident Response

PAUL HARRIS, Office of Nuclear Security and Incident Response

JORDAN HOELLMAN, Office of Nuclear Reactor Regulation

JURIS JAUNTIRANS, Office of Nuclear Security and Incident Response

STEVE LYNCH, Acting Branch Chief, Advanced Reactor Policy Branch, Office of Nuclear Reactor Regulation

WILLIAM RECKLEY, Office of Nuclear Reactor Regulation

NANETTE VALLIERE, Office of Nuclear Reactor Regulation

ALSO PRESENT

HILARY LANE, Nuclear Energy Institute

STEVEN KRAFT

ADAM STEIN, The Breakthrough Institute

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

10:01 a.m.

MR. BEALL: Good morning. I want to welcome everyone and thank you for participating in today's public meeting to discuss the Risk-Informed, Technology-Inclusive Regulatory Framework for Advanced Reactors or the Part 53 Rulemaking. My name is Bob Beall, and I am from the NRC's Office of Nuclear Material Safety and Safeguards. I'm the Project Manager for the Part 53 rulemaking and will be serving as the facilitator for today's meeting. My role is to help ensure that today's meeting is informative and productive.

This is a comment-gathering public meeting to encourage active participation and information exchange with the public to help facilitate the development of the Part 53 rulemaking. The feedback that the NRC receives today is not considered a formal public comment, so there will be no formal response to any of today's discussions.

Once again, we are using Microsoft Teams to support this public meeting on the Part 53 rulemaking.

Next slide, please.

The purpose of today's meeting is to

exchange information, answer questions, and discuss the Part 53 rulemaking. Today's meeting will focus on the second iteration of the Part 53 Framework A preliminary proposed rule language and supporting changes to Parts 26 and 73. I have placed a link in the Teams chat window for this meeting to the second iteration of the preliminary proposed rule language and also for the slides. We will also have a one-hour lunch break around noon and 15-minute break this afternoon.

This is a comment-gathering public meeting, which means that the public's participation is actively sought as we discuss the regulatory issues. Because of the number of attendees, we may need to limit the time for an individual question or discussion on a topic to make sure everyone has a chance to participate. After everyone has a chance to ask their question, we will circle back and allow people to ask additional questions, as we have time.

Slide 3, please.

I would now like to introduce Steve Lynch. Steve is the acting Branch Chief with the Advanced Reactor Policy Branch in the Office of Nuclear Reactor Regulation. Steve will give the opening remarks for today's meeting.

Steve?

MR. LYNCH: Good morning, everyone. Again, my name is Steve Lynch, acting Chief of the Advanced Reactor Policy Branch. I'm very glad to have all of you here participating, showing your interest in our continued development of Part 53 as a technology-inclusive regulatory framework for advanced reactors.

It has been very valuable for the NRC staff to be able to get feedback at this very early stage of rule development, to help make sure that we are developing a rule that is responsive to the needs of stakeholders, developers, and future operators that will be relying on this regulatory framework to safely operate their advanced reactors.

So, today's meeting will be focused on a discussion of (audio interference) options known as Framework A. And, in particular, we are going to be talking about the changes that the staff has made since the consolidated rule language for the preliminary proposed rule text when Framework A was released in February and, also, based on the discussions that we had on several technical topics in March of this year. All of these changes are reflected in the second iteration of the consolidated draft

preliminary proposed rule text that was released on May 11th.

The only subpart of Framework A that we will not be discussing today is Subpart F related to operations. This will be the subject of a future public meeting, once the NRC staff has finished its internal review and completion of this subpart.

There will be future opportunities for the public to engage with us on Part 53 and, in particular, the traditional approach presented in Framework B. The first iteration of the preliminary proposed rule text for Framework B is on track to be released in the next few weeks, in June of 2022.

We are also tentatively looking at having a public meeting on Framework B and discussing the preliminary proposed rule text at a public meeting on June 16th. However, this date is subject to change and will be confirmed shortly.

We, again, thank you for your interest and continued participation on these important discussions on Part 53. We look forward to sharing with you the work that we have been doing for the last several years and, also, welcome any additional feedback or questions that you have on this process.

So, with that, I'll turn it back over to

Bob.

MR. BEALL: Okay. Thanks, Steve.

I would now like to introduce the NRC staff who will be leading the discussion of today's topics. Myself, as the meeting facilitator, and we have Bill Reckley, Nan Valliere, and Jordan Hoellman from NRR, who will be leading the Part 53 Framework A discussion.

And from the Office of Nuclear Security and Incident Response, we have Paul Harris, Brad Baxter, and Juris Jauntirans discussing Parts 26 and 73.

If you're not using Microsoft Teams to attend this meeting and would like to view or have a copy of the presentation slides, they are located in the NRC's ADAMS document database, on regulations.gov, and I have also placed a link of the slides in the Teams chat window for today's meeting. The ADAMS Accession Number for today's presentation is ML22131A, as in alpha, 001.

Today's meeting is using a workshop format to allot more time for open discussions on the various topics. This will require all of us to please make sure that our phones are muted when we're not speaking and do our best not to speak over each other.

In addition, please turn off your camera

when you're not speaking to the staff. This will minimize any internet bandwidth issues we may have during the meeting.

To help facilitate the discussions, we request that you utilize the "Raise Hand" feature in Teams, so we can identify who would like to speak next. The staff will then call on the individual to ask their question or raise their comment. The "Raise Hand" button, which is shaped like a small hand, is along the top row of the Teams display area. You can also use the chat window to alert us if you have a question. Please do not use the chat window to ask or address any technical questions about Part 53. The chat window is not part of the official meeting record and is reserved to identify when someone has a question or for handling any meeting logistical issues. To minimize interruptions, the staff will call on participants who have used the "Raise Hand" feature or the chat window to identify when they have a question or comment.

If you joined the meeting using the Microsoft Teams bridge, you may not have access to these features. If you would like to ask a question or provide a comment, you would need to press *6 to unmute your phone. The staff will pause at the end of

each topic to ensure all participants have an opportunity to ask a question before moving on to the next topic. After your comment has been discussed, your phone line will be muted again. If you want to ask additional questions, you will have to press *6 to unmute your phone.

If there is a particular comment you would like to discuss, please send me an email after the meeting and we'll try to include it in a future public meeting.

This meeting is being transcribed. So, in order to get a clean transcription and to minimize distractions during the meeting, we would like to remind everyone to please mute their phones when not speaking, and to identify yourself and the company or group you may be affiliated with. A summary of this meeting and the transcript will be publicly available on or before June 24th, 2022.

Finally, this meeting is not designed or intended to solicit or receive comments on topics other than Part 53 rulemaking activity. Also, no regulatory decisions will made at today's meeting.

Please note that towards the end of the presentation there are slides containing acronyms and abbreviations that may be used during this meeting.

Slide 4, please.

And with that, I'll turn the meeting over to Bill Reckley, who will start today's discussions on the Part 53 Framework A regulatory rule language.

Bill?

MR. RECKLEY: Okay, thank you, Bob.

So, I'm having a little technical difficulty myself, not seeing the slides. So, I do have them here.

If we can go to the rulemaking schedule slide, Liz? As you can see, this is our process and schedule for the rulemaking process. So, we're in that first circle, the ongoing activities, where we're talking with stakeholders, interacting with the Advisory Committee on Reactor Safeguards, and others, to develop a Draft Proposed Rule to provide to the Commission. And our schedule to do that is in February of 2023.

And so, as Steve mentioned, we've benefitted from the interactions we've had over the last year and a half, as we have gone through various thoughts and drafts of the various sections. We're approaching the point where we need to consolidate all of those; finish up the rule text; make sure all of the internal references and content is what we want.

We have to prepare regulatory analysis and the Statement of Considerations, or preamble to the rule. So, all of that is going to take up most of our time between now and the end of the year, so that we can provide to the Commission the paper and the Proposed Rule by February.

As Steve mentioned, once the Commission decides in 2023, after we give them the Proposed Rule, to release it, either as we sent it up or after asking us to make changes, we will publish the Proposed Rule. And that really opens the formal process and solicitation of public comments for us to address and disposition in 2023 and 2024, in order to draft the final rule that we would provide to the Commission -- again, with the goal that the Final Rule would be published and effective and available by the middle of 2025. So, with that, Liz, if we can go to the Framework slide?

As you can see, we did make a change from what we considered very early on in 2021, which at that time was the development of what's currently called Framework A. And this was a risk-informed approach that we have talked about again over the last year and a half, as we developed and refined the text. We had stakeholder feedback that the approach in

Framework A, which is derived in large part from concepts that have been kind of evolving over the decades. It started in the 1980s with the gas reactor community and has continued more recently in things like the Licensing Modernization Project, which is documented in NEI 18-04 and the NRC's endorsement of that in Regulatory Guide 1.233.

That kind of framework in Framework A, some stakeholders suggested a more traditional framework or approach would be -- that they would feel more comfortable with a more traditional approach, as the technical requirements are currently laid out in Parts 50 and 52. That is in large part because much of the international arena is based on that kind of framework. The IAEA guidance and standards were developed somewhat from that framework that the NRC established in the 1960s and '70s and evolved since then, but it's based in that kind of a structure.

So, given we had stakeholders wanting a more traditional approach, we undertook to develop Framework B. As Steve mentioned, we're in the midst of finishing up the rule text for that and planning interactions with both public stakeholders and the Advisory Committee on Reactor Safeguards to go over the content of Framework B in the next month or so.

Today's discussion will be on Framework A, which, again, is those subparts that we've been discussing over the last year and a half. So, what I plan to do today -- Liz, if you can go to the next slide? -- is the slides we have today are pretty high level. We talked in March, at the March public meeting, about a few specific topics, and we went into some detail on those topics. Today's going to be a little different because we're just going to walk through all of Framework A.

The file was released a couple of weeks ago. The Accession No. is on this slide. We have this package available and we can pull it up, if people have had a chance to look through it and have specific questions, either on changes that we made since the version we released in February or just more general discussion.

Although we've been talking over the last year and a half with stakeholders, so much of those discussions were focused on just a couple of topics, that perhaps if anyone's had a chance now to look at some of the other subparts and have questions, even if it doesn't involve a change, we can pull up the file. We can talk about questions or comments on areas that maybe have not been the focus of the discussion over

the last year and a half.

So, Liz, if you can go to the next slide, Framework A?

MR. BEALL: Hey, Bill?

MR. RECKLEY: Yes?

MR. BEALL: Hilary Lane from NEI had a question in the chat box. She wanted to know, will we stop and pause at these subparts for questions or discussions, or are we holding off until the end?

MR. RECKLEY: Our plan is to stop at a couple of places. If there's an area involved, you can monitor this. I mean, the advantage is today we can be pretty informal. As Bob mentioned, this is an information-gathering-type meeting. If there's a topic and a number of hands go up, we can just stop there because it might be an area where we want to stop. Otherwise, I was thinking that we could stop maybe every other subpart and just see if there are questions or discussions.

MR. BEALL: Right, right. Do a couple, and then, get through a couple of subparts, and then, take questions on those.

MR. RECKLEY: Right. So, like after we talk about Subparts B and C, we can have a pause and see if there's comments on those; D and E, and so

forth.

MR. BEALL: Right. Work together with the related subparts.

MR. RECKLEY: Right.

MR. BEALL: That works for us.

MR. RECKLEY: Okay.

MR. BEALL: Okay. Thank you, Bill.

MR. RECKLEY: Okay. So, on this Framework A slide, as you can see -- and I apologize if you hear the dogs in the background -- the Framework A is laid out in terms of Subparts A through K.

Subpart A is expected to be, also, applicable to Framework B, the traditional approach, because these are the general provisions on high-level matters that really are generally applicable to any reactor licensing. These are the provisions that exist in Parts 50 and 52, and we carried them over.

One important area of Subpart A is definitions, and we continue to work on that. And as we bring together Frameworks A and B, that will be an additional challenge, but that's Subpart A.

Subpart B, we've talked about throughout the last year and a half. That's the safety requirements, the high-level objectives of Part 53.

Then, Part C is how design and analysis

contributes to that.

And D is siting, and so forth. So, we'll go through these in order today, is the way we're planning to do it. And then, as we just said, at certain points we will have a break and see if there's a general interest in having questions or comments on those subparts.

If we'd go to the Subpart A slide?

Again, Subpart A lays out general provisions. If you take a look through it, you'll see a lot of things that look familiar. We largely took them from Parts 50 and 52. I did want to use this as an opportunity just to highlight a couple of the definitions, because, again, these are areas we haven't specifically talked about for a while, but it is important to keep in mind. Because within, for example, the definition of "commercial nuclear plant" is, basically, a change in Part 53 from the traditional approaches in Parts 50 and 52. And that is that the analysis, the design, the activities associated with the development and deployment and operation of the commercial nuclear plant within Part 53, Framework A, considers multi-unit, multi-source. And this is largely coming out of the role of the Probabilistic Risk Assessment, or PRA, and the

construct that, when doing a safety analysis, again, you're looking at events, many of which would be, continue to be, associated with a single unit or single commercial nuclear reactor. Just like now, if there's four units or reactors at a site, most often the event is going to include a trip or some transient on a single reactor, but there are events that could affect multiple reactors and multiple sources; like waste gas as well as the reactor would be an example. And the analysis and the goals that are in Subpart B are based on an assessment of all of those units, all of those sources. So, that's the importance of our use throughout Part 53, Framework A, of the term "commercial nuclear plant." Again, a commercial nuclear plant can be made up of multiple commercial nuclear reactors.

The other term, when we get to Subparts E and H on licensing, is in terms of the manufacturing license that will be the regulatory vehicle to address manufactured reactors. And so, here, with the proposals to have the potential factory loading of fuel in microreactors, we needed to make a distinction between the traditional manufactured reactor, in which all or parts of a facility are addressed by a manufacturing license; then deployed and assembled;

final assembly at the site, and the special nuclear material, the fuel, is shipped to the site for loading. So, that's a "manufactured reactor," considered two pads, one for the reactor components and one for the special nuclear material, and they're coming together at a site with a combined license for that particular site. The factory loading of fuel differs in that, in that the special nuclear material is going into the reactor in the factory and they're shipped as a unit. And so, the term we use for that is "manufactured reactor module."

So, when we get later on, again, it's just a distinction that a manufactured reactor includes the case where the reactor components are shipped to a site and the fuel is shipped to the site, and also includes the manufactured reactor module that includes loading of the fuel. So, we'll talk about that when we get to Subparts E on manufacturing and Subpart H on the licensing, the manufacturing license provisions.

Other definitions are associated with the methodology, including event categories and defense-in-depth. Some of these definitions are where there may be a difference between Framework A and Framework B. Again, Framework B is using the traditional approach, and Framework A is largely taken from the

Licensing Modernization and how the event categories in defense-in-depth were developed under that program.

So, if we go to the next slide, Liz?

So, again, Subpart B is the foundation of Framework A. It is intended to lay out the safety objectives at the highest level, then to provide safety criteria for the design basis accidents, and in 53.220, the safety criteria for licensing basis events other than the design basis accidents requires the identification of safety functions, licensing basis events, providing defense-in-depth, and then, also addresses normal operations. This would be routine effluents from the plant, as well as the production of plant workers. We'll talk about those a little more as we go forward, but those were, also, largely the focus of the March meeting. So, we hadn't planned on repeating all of the discussions that we had at the March meeting.

If you go to the next slide, the figure slide, Liz?

This tries to lay out in kind of a picture form how Framework A builds from the safety objectives in Subpart B and carries forward into Subpart C, the design and analysis, and then, all of the other subparts, to lay out increasingly more detail on what

the requirements are for particular equipment and particular programs and particular roles of personnel. So, again, it goes just in order down through the figure: the safety criteria in Subpart B. We define two primary criteria, one for the design basis accidents and another set, 53.220, for the non-design basis accidents or licensing basis events other than design basis accidents. Then, we require that the developer or the applicant identify the safety functions that are needed to meet those criteria; to identify the licensing basis events in terms of potential off-normal events; the malfunction of equipment; the external hazards, and so forth, to provide a certain degree of defense-in-depth; to ensure that there's not a reliance on single pieces of equipment or single programs. And then, as I mentioned, considering all of that, what is the role of structures, systems, and components? What is the role of personnel? What's the role of programs to tie everything together?

So, this is slightly different than the traditional approach. In my view, the primary difference is this has the developer start at the beginning. The traditional approach, basically, has already identified that there are certain safety

functions, and even design features, that have been identified and will be provided. And then, the regulatory requirements, largely in places like Appendix A to Part 50, the General Design Criteria, lay out what the requirements are. And so, in meeting those specific requirements, the safety of the plant is provided because that exercise has already been done. It's largely been done for light water reactors, and that becomes part of the reason in Framework A that we, basically, say let's start over. And the safety criteria will, then, allow you to identify safety functions and design features, often the same ones you do when you build off of the light water reactor requirements, but recognize there is a potential for other safety functions to be identified. The importance of certain things may be different for different sizes or different reactor technologies. So, that's, basically, the thought that this slide is trying to convey.

And again, we've had this discussion over the last year and a half. I just wanted to kind of repeat it today because it does form the basic construct of Framework A and the requirements that will carry through all of the other subparts we're talking about today.

So, if you go to the next slide?

We did, as a result of the March meeting, make one change to Subpart B, based on the discussions we had at that meeting.

And so, Liz, if you'd go to the next slide, slide 12?

You might remember, those who attended the March meeting, that in terms of paragraph (b), and meeting the NRC safety goals, in the March meeting, we presented that one of the changes that we made was to be more specific in paragraph (b) that we were talking about risks and meeting the metric, the risk-related metrics, through the analysis as it's done in accordance with the later section; and that we were talking about calculated risks. And even that change was to address stakeholder feedback that there are uncertainties associated not only with the PRA, but the underlying health physics, and so forth, and a fear that just citing the QHOs, the qualitative health objectives, could bring all of those things into discussions and arguments. And so, one way to address that is to tie it to the analysis methodology that would be reviewed and approved by the NRC, in accordance with the later section, Section 53.450 that we'll talk about later.

But the specific comment in the March meeting was we had used language of life-threatening health effects, and there was a general consensus that deviating from the language in the NRC's Safety Goal Policy Statement could bring in unintended issues. The guidance that we have, the methodologies that we've developed over the years use the language of the safety goal, which is prompt fatalities and cancer-related fatalities. So, we revised paragraph (b) to be more in line with the language in the Safety Goal Policy Statement. That wasn't, from our perspective, a change in intent. That's the way we had foreseen it or thought it would work, but understood the comments that anytime you introduce change, it brings in the potential for discussions that were unnecessarily -- an unnecessary complication by just changing the language. So, again, the change we've made in the second iteration of the text is to just change the language to be more consistent with the Policy Statement, and that is shown here in the green, by changing the language for immediate concerns to prompt fatalities, and for longer-term concerns, to cancer fatalities. Other than that, there wasn't significant changes in the second iteration of Subpart B from what we released in February.

So, if we go, then, to the next slide, Subpart C -- since we're going at a pretty good pace, Bob, I see a hand up. Why don't we just go ahead and take it?

MR. BEALL: Okay. Hilary, do you have your hand up?

MS. LANE: Yes. Good morning, everybody.

This is Hilary Lane with NEI. I'm filling for Mark Nichols this morning of NEI. So, just broadly, we appreciate the NRC holding the meeting today. Yes, this is the second iteration of Framework A. We've had about two weeks or so to digest it. I think we're still digesting. Much of it, we are meeting today to go over the changes. I wanted to just quickly say, on Part A, Subpart A, we did see some positive changes in some of those definition changes. We noted that the phrase "human actions" was deleted in a couple of terms, and we felt that that was a positive change. And that certainly clarifies some of those definitions because some of that language we felt was ambiguous. So, that was a positive change, in our view.

Subpart B, I wanted to make a comment on that before we moved on to Subpart C. Thanks for reviewing that.

Bill, you mentioned that that is kind of at the heart of Framework A, the foundation of Framework A, and we certainly agree. And that's why we feel strongly about a lot of those pieces of that section as well. There are several key areas in Part B that did go unchanged (audio interference), like you mentioned. And these were some areas that the (audio interference) industry wanted to discuss before -- it's no surprise to everybody -- is, you know, treatment of ALARA (audio interference), beyond design basis, treatment of non-safety significance -- just to name a few. So, we were a little disappointed, as one can imagine, to see that there were no intended changes to those sections. So, given that, those concerns do remain. And we just encourage the NRC to continue to look at those sections to potentially clarify that language. Because as we read it, there's some differing interpretation in how the NRC is reading it and how the industry is reading it. So, we don't want to be in that position.

Similarly, we know there weren't any updates as go to Subpart F. We understand that. But, along the same lines, there were no changes to certain areas in that part as well that we had some significant concerns, you know, the safety program, et

cetera.

Again, we just want to continue to encourage the NRC to look at and reevaluate those particular areas where the industry has their primary concern, primarily in Subpart B.

Thanks.

MR. RECKLEY: Thank you.

Yes, and what we'll do, in addition to that, is -- those discussions highlight to us where we need to describe the rationale within the Statement of Considerations or the preamble to the rule. And so, over the summer, again, as we write that document, we will take into account all the discussions we've had over the last year and a half and try to, again, not address comments per se, but we know what areas had a lot of discussion and questions. So, that will give us some insights as to what we need to describe within the Statement of Considerations.

So, Liz, yes, okay, back on this slide.

So, this just gives the layout of Subpart C, the design and analysis requirements. I'm not going to read every section, but, again, going back to that figure, Subpart B laid out that a developer needed to identify safety functions and what design features would be used to perform those functions.

Subpart C builds on that by saying, basically, you have identified the design features for licensing basis events, both the design basis accident and the other event categories; the anticipated operational occurrences; unlikely and very unlikely event sequences.

Now the next part of that is to say, what are the functional design criteria to establish for those design features to make sure they're able to actually fulfill the safety functions? And then, likewise, what are the design features and the requirements on those design features for controlling routine effluents and for protecting the plant workers?

We'll talk about 440 lays out more specific design requirements and some things that may not carry directly from Subpart B, but are, nevertheless, required for either a specific reason, like aircraft impact assessments or providing a little more detail of how you might meet the criteria in Subpart B. So, a fairly long list of design requirements and analysis and special treatment considerations.

So, if we go to the next slide, Liz, 15?

MS. VALLIERE: Did you mean 14, Bill, slide 14?

MR. RECKLEY: Yes, I'm sorry. I'm sorry, yes. Yes.

Next slide.

Thanks, Nan.

So, again, just looking at some of the changes that we made in the second iteration of the consolidated file compared to what we released in February, we had used throughout Part 53 the term "consensus codes and standards" or "generally-accepted consensus codes and standards." And we needed to clarify that. However, they're used -- and we still encourage the use of consensus codes and standards -- but where they're used, they would have to be, ultimately, found acceptable by the NRC, either in an activity like a Regulatory Guide, where we accept something like, in particular, ASME requirements; yes, a Topical Report that might be presented explaining how a particular consensus code and standard is used, or even within a specific application.

But we wanted to make clear that it's not as easy as simply saying, "We used a particular standard that was issued by a standards organization," and that automatically meant it was okay. However it's referenced, the NRC would need to review it, either generically or as a part of an application.

Another change was within that list of design requirements under 53.440. We added a design requirement to minimize contamination. This is, basically, just referring to the regulations in Part 20, Section 1406, for designers and developers to consider, within the design, ways to minimize contamination to ultimately support an easier decommissioning of the facility.

We also reordered the 440 requirements. And one of those was to bring an item from the middle of the pack to the top. And that is the requirement that equipment used to perform safety functions has to be demonstrated -- through analysis; testing; potentially, the use of prototype plants -- to demonstrate that the equipment is able to perform those functions. So, this is the equivalent of 50.43(e) for reactors other than what the NRC was looking at in the 1970s. This has always been a very important requirement, and we wanted to emphasize it by bringing it up to be paragraph (a). It didn't actually change what it said, but just to emphasize its importance, we brought it up to paragraph (a).

So, with that, I think we can go on to slide 15.

I'm going show in a second some additional

text that we added to the analysis section. Again, we were looking at these as clarifications and didn't really, at least in mind, change the requirements, but they might have been a little nebulous. And we'll talk about that in a second.

The other change that we made might be subtle in the language. But one of the comments that we received after the March meeting was on the section we added on earthquake engineering. And the comments were that it read as if there was not a distinction, for example, between safety-related and non-safety-related, but safety-significant SSCs. And so, we tried -- and again, we can pull up the text, but if you read it, you'll just see that, basically, what we've added are words such as commensurate with their safety significance to the non-safety-related, but safety-significant SSCs. What we're trying to do here is accommodate some of the approaches to earthquake engineering, seismic analysis, that are being developed. And those methodologies maintain requirements for safety-related equipment, but also include the consideration of non-safety-related SSCs within the Probabilistic Risk Assessment, and therefore, the potential that there would be special treatment requirements related to seismic issues for

some equipment -- not necessarily, but potentially. And so, that's what we're trying to reflect, and this is the methodology -- and I'm probably going to get the number wrong -- in the American Society of Civil Engineers Standard 419, I think it is. But, in any case, that's what we're trying to accomplish, so we did change the language to try to reflect that.

Again, we ask people to look as we go forward developing not only the rule text, but also, to some degree, this methodology as a parallel activity, that two are being consistent, and we are allowing within Part 53 this alternative approach.

So, with that, I think we can go to the next slide, which is just a sentence we added to 53.450(e) after the last interactions at the March meeting. And again, we thought this was implied, but understood it was maybe a little nebulous. So, we added this sentence that's highlighted here, which is: The analysis of licensing basis events other than design basis accidents must include defining what is the evaluation criteria used to assess that event. And that can be done on an event-by-event basis or it can be done for categories of licensing basis events. But, for every licensing basis event, you need to be able to assess and say: did the plant behave? Did it

meet the evaluation criteria I've established for that event?

And so, this is an additional requirement beyond the Subpart B, 53.220, requirement to meet the QHOs. And the QHOs are a cumulative risk measure. This is laying out, for each licensing basis event, the need to identify evaluation criteria.

So, just quickly going through, and using the Licensing Modernization Project as an example of that, we can just go through what that would mean -- so, if we go to the next slide? -- for anticipated operational occurrences. You can see there's a definition of that event category, and then, the evaluation criteria, in terms of the frequency consequence target, is largely taken from Part 20. Because the more frequent events, you want to make sure that any offsite exposure would be relatively small. So, if there is a release, it would meet the Part 20-type requirements, and that would be your evaluation criteria for anticipated operational occurrences.

So, if we go to the next slide, it's the same thing for what the LMP refers to as design basis events. We, in Part 53, to avoid confusion with definitions, coin them to be "unlikely event

sequences." And you have a sliding scale under LMP for the frequency range that goes from 1 rem up to 25 rem at the exclusionary boundary for this. So, if you were using LMP, these would be the evaluation criteria that you would use from the frequency consequence target figure. If you're using another methodology or a different frequency consequence target -- or there's been some discussion of using, instead of an event-by-event evaluation criteria such as this, to use more of a cumulative distribution function. That could be done. You would use that in defining your evaluation criteria for particular events. That gets a little harder, but we think it could be done if somebody wanted to develop that approach.

You go down to the last one, and this is just the same thing again for either beyond design basis events under LMP, or what we refer to under Part 53 as very unlikely event sequences. They are very unlikely. So, the frequency consequence target figure would conceivably allow a higher dose. So, that's all we meant by the sentence that we were adding, is that, in addition to the cumulative risk measure from Subpart B, you have to have evaluation criteria for every licensing basis event.

So, then, the next slide just finishes out

the licensing basis event discussion. We didn't make any changes to design basis accidents, but whenever we're talking about licensing basis events, I just like to include this slide to emphasize that it is an additional item that needs to be addressed. You need to identify, under Framework A, a design basis, a number of design basis accidents, and they have to be assessed and compared to the criteria in 53.210 to finish out the evaluating of licensing basis events under 450.

So, that really lays out -- and again, we didn't make a lot of changes. The changes we did make between the first and second iterations of the consolidated language we thought of as being clarifying, no fundamental changes in those subparts.

So, with that, Bob, I think we can just kind of open it up and say, if people have had a chance to look at the second iteration that we released a couple of weeks ago, are there other questions or areas of discussion under Subparts B and C, or even A, since we addressed that as well here in the beginning?

MR. BEALL: All right. If you have any questions or comments you would like to make at this time, please raise your hand.

Hilary, please go ahead.

MS. LANE: Yes, thanks, Bob. Thanks, Bill.

So, earlier I had made the comment that we noted that the "human actions" term was removed from certain terminology and definitions. We thought that was a positive change in the right direction. We noted, however, in a couple of areas of Subpart C that that term "human actions" was added back in. We saw that in, let's see, 53.410, which is functional design criteria. And we also noted it in 53.480, earthquake engineering. So, we noted that it was added back in in some place, taken out in other cases. So, when it's added back in, I guess, could you just explain a little bit more for us, you know, what is really the intent of that kind of language in that context? Could you just describe that a little bit more?

MR. RECKLEY: Sure. So, what we were trying to do in part was to remove "human actions," for example, from categorization. So, you wouldn't, quote, "have safety related human actions." And so, in places where we use the term "human actions," and it could lead to that kind of confusion, that the human actions were treated exactly like equipment, we tried to break them apart. But we also want to

maintain, even in the design section, Subpart C, the need for developers to be considering and identifying what human actions they are assuming in presenting the design. And this is going to support the evaluations under Subpart F for staffing, developing staffing plans, and matters like that.

So, one thing that we try to do under Part 53 is to have an integrated approach and have it considered from the beginning. And so, hopefully, even in the design stage, the developers are either knowing that they're trying, through the design, to avoid human actions and save on operating costs, potentially saving in operating costs through saying, "I've done this through the design. So, I don't need to have people do it later on." Or vice versa, they've stopped somewhere in the design to say, "It's not practical for us in the design to totally resolve this issue. We are still going to rely on a person to do something."

And then, likewise, that will enable the designer to say why they stopped and what they're assuming. It will allow us, during the review, to say, "We understand that." Basically, it's an interface now that we've identified that, once we get to looking at an actual COL or CPOL, that that

particular event sequence, for example, is assuming that the humans have a role. So now, we know how to inform what staffing would be required in Subpart F. That supports not only us, it supports whoever is providing that COL application down the road. So, we did not eliminate within the design section the need to consider the role of people, but we did -- our intent was to try to break it apart, so that we didn't have people saying, "Oh, that's a safety-related human action, and what does that mean?" Because we've tended not to use that terminology necessarily. But we still want to be able to say the designers assuming a human action, that means you'd have to have a human. That means you have to have a procedure. That means you have to have all of the things that go along with that. So, that's what we were trying to do.

Does that --

MS. LANE: Well, I think we certainly agree that removing it from the categorizations piece is the right move. We may still need some clarity on that term moving forward in the other sections, but, you know, we can take that offline.

MR. RECKLEY: Okay. And again, the trouble with having an integrated approach is, in order for it to work well, we do have to carry it

through; use the same terminology, and make sure people are understanding what we're doing. So, yes, that will be something that we can go forward. To be honest, we thought about adding a definition, but "human action" was defined as an action carried out by a human. So, we didn't think we needed to do that. But if it gets more specific, so that we need to address something and make distinctions, either in subparts, in sections, or through adding a definition, as you look at this, at some point I'll start to say, "As you comment on the Proposed Rule, this is maybe an area you want to look at."

Any other --

MR. BEALL: Okay. Thank you, Hilary.

If you're on the bridgeline, if you have any additional questions, if using the bridgeline, please remember to hit *6 to unmute yourself.

Are there any further questions or comments on Subparts A, B, and C?

(No response.)

Okay. Not hearing or seeing anything, Bill, let's continue on with Subpart D.

MR. RECKLEY: Okay. Liz, if you'd go to the next slide?

So, within Subpart D, between the second

iteration and what released earlier in the year, not very many changes. We added a recognition that there are activities that are performed as part of the analysis and data-gathering of siting; that some of those activities would be addressed by either Subpart K, the quality assurance activities for safety-related activities, or, potentially, even special treatment requirements, if it's affecting a non-safety-related, but safety-significant design feature. So, that is really all we added. The general layout, again, of Subpart D is mirroring, to some degree, Part 100, but we brought the siting requirements into Framework A: general siting; the need to identify external hazards; the need to characterize the site in terms of things like water table, meteorology, soil, and so forth; the population-related considerations, again, largely consistent with Part 100. So, that's really it on Subpart D.

Steve Kraft?

MR. KRAFT: Yes, can you hear me, Bill?

MR. RECKLEY: Yes, Steve.

MR. KRAFT: Great.

Listen, I hate to go back to a slide. Because you said something that kind of clarified my understanding. Going back to what you call "very

unlikely events," it's equivalent to beyond design basis events, is that right? Is that what you mean?

MR. RECKLEY: Under the Licensing Modernization terminology, yes. They were called beyond design basis events.

MR. KRAFT: Yes. I'm just curious. Are licensees, license applicants, expected to identify what those might be, so they can analyze them?

MR. RECKLEY: Yes. And again, this is the role, under Framework A, of a risk-informed approach. You have to look at a wide spectrum of events, and some of those would be those that have low frequencies or low -- yes, low frequencies. And so, they need to be assessed and considered within the design of the facility. The reason we changed the terminology to very unlikely event sequences is because the term "beyond design basis events" has been used in the traditional approach within Parts 50 and 52, and we were trying to avoid misunderstanding. So, within Framework A, we have selectively used different terms in some cases, even from what was in NEI 18-04 and Regulatory Guide 1.233.

MR. KRAFT: So, I value you did that, because it does -- definitions are important, as Hilary was pointing out. But just to go back to our

Fukushima experience together, Bill. Beyond design basis events in my world are, by definition, unknowable, because if you knew them, you'd account for them, which is what you're expecting.

So, it raises the question -- I'm not suggesting you go back to that -- apply the new, relatively new beyond design basis in that rule. I understand the point. But doesn't it raise the question, since none of us are 100 percent prescient, that there are going to be events that are simply not knowable? It's the classic "unknown unknowns"?

And then, to me, this is a slippery slope, not just for applicants, but for you guys, too, the NRC. Because you sit there and you say, "Well, okay, well, there's this one. Now what about that next one?"

Bill, you and I went through this with the BWR vent issue and in front of ACRS a hundred times. And frankly, you get to the point where you said, "Well, wait. Wait. No, wait a minute. What probability is that?" We had that conversation. And I'm just raising the point that it's like, okay, now we've got something called "very unlikely events" in places which read a heck of a lot like BDBEs. Okay, then, what? Sometime along the way, we call it,

"beyond"? I mean, I know I'm being silly here, but I'm raising the question that you're on a slippery slope that you can't analyze and you can't predict.

MR. RECKLEY: So, "beyond" becomes -- under the discussions, there is an acknowledgment that there are both potential identifiable events and uncertainties that go below whatever low frequency you're going to use as the lowest frequency that you need to consider within the licensing basis events. The goal of doing a systematic assessment is to say, those events, they exist, but they have a frequency that is so low that they're considered within the residual risk of the facility. Again, there's an acknowledgment that existing and future reactors continue to pose some risk. They're not zero-risk facilities. And the goal here is to say we're going to evaluate, systematically identify malfunctions, external events, to say we've addressed that down to some low frequency and are consciously saying there is some residual risk and that is tolerable.

So, yes, now you get -- yes, I'll just leave it there. And that is kind of within Framework A, again, we hope a more systematic way of looking at that. The traditional approach did some things that were similar to that, and definitely within the PRA

space do things that are comparable. They just were done as confirmatory and as a way to address things like regulatory treatment of non-safety systems for the passive plants, like AP1000.

So, I hear what you're saying. Again, as you read through this, I hope people will kind of recognize that the key to this is that systematic approach, and part of that, to your point, Steve, is not only what you need to address, but what you're leaving unaddressed.

MR. KRAFT: Okay. Well, thanks for the explanation, Bill.

MR. RECKLEY: Okay. Seeing no more, yes, we can go on to Subpart E.

MR. BEALL: Yes, keep going, Bill.

MR. RECKLEY: So, Subpart E defines construction and manufacturing requirements under Framework A. The most significant change in terms of adding text, if you look, is we added Section 53.605 to capture the reporting of defects and noncompliance during construction. So, this is largely taken from Section 55(e) within Part 50. So, it looks like a big change, but was just added, again, by largely taking from 50.55(e) and moving it over to make sure we had captured the need for the identification and reporting

of defects and noncompliances during construction. We did not make many other changes to the construction area.

In the manufacturing section, Section 620, we did, in large part on discussions we had with stakeholders last year -- this is a case of us catching up in this iteration to some feedback we had gotten back in 2021. We tried to clarify and expand the reliance of the fuel loading, the loading of fuel in a factory to 10 CFR Part 70, the control of special nuclear material.

And so, we were a little more specific in referring to Part 70, and from our perspective, relying on Part 70 to control that activity. So, we didn't repeat a lot of the requirements. We just pointed to Part 70. But that's where, you know, the need to have assurances that you've taken measures to prevent criticality and have other controls on the special nuclear material will come into play. So, I'll just leave it there.

If people have had a chance to look, we would be particularly interested in some of the microreactor developers who are considering this possibility to take a look at that. And I know there's some ongoing discussions with particular

vendors, and maybe a subgroup of the industry developing microreactors, to kind of take a look at this and see if it's workable from their perspective.

So, that was really all of Subpart E.

MR. BEALL: Hey, Bill, we're skipping Subpart F. So, do you want to go ahead and start on Subpart G?

MR. RECKLEY: Sure.

So, we just, again, are walking through the subparts because we thought we would use this meeting as the vehicle, because there wasn't a lot of discussion with stakeholders about some of these subparts when they were released in 2021, or in the first iteration text.

So, this just lays out decommissioning requirements. This is largely taken from 50.75 and 50.82 on the decommissioning requirements and the termination of licenses. Not any significant changes in the second iteration text we just released, but I will just highlight some of the things we needed to do, since I don't recall having a discussion on decommissioning at a public meeting before.

But some things you need to look -- and most of these are taken directly, like I said, from 50.75 or 50.82. And so, they won't work significantly

differently under Part 53 as they do under Parts 50 and 52. But we needed to make some changes to make them technology-inclusive. And people need to think about it. And again, I'll just lay out there: people need to think about it, no matter whether you're using Part 53 or you're going to use Parts 50 and 52.

Financial assurance for decommissioning. There are existing studies and existing tables in our regulations on estimating -- this is 1020, developing a cost estimate for decommissioning. There's existing tables for pressurized water reactors and boiling water reactors within our regulations for those costs.

If you're a different technology, there is no specific guidance or requirement, no specific dollar value currently in the regulations. And so, what 1020 requires for somebody applying for a construction permit or an operating license, or a combined license, is to develop an estimate for what it's going to cost to decommission the facility.

If you look at what that entailed for the light water reactors, that, in and of itself, was a major undertaking. And so, I'll just lay out there that, as you're moving forward -- I know it's hard to start to focusing on decommissioning -- but whenever you submit your application under 50, 52, or 53 for a

specific facility, a specific commercial nuclear plant under Part 53, there will need to be a cost estimate for decommissioning that facility. The methods and the vehicles for ensuring that the money is available is largely the same. The same financial instruments are available. Largely, the same reporting requirements and process to fulfill the later termination of the license.

So, again, no changes in the second iteration to this. I just like kind of wanted to emphasize that there are some things -- don't forget about decommissioning just because it's Subpart G and you're working on Subpart, you're still working on the design.

As I mentioned earlier, under the design, one of the things we added was the reference to Section 20.1406 that, even at the design stage, you need to be looking to minimize contamination to support decommissioning.

So, with that, any questions or comments on decommissioning?

MR. BEALL: Hilary, you have your hand up.

MS. LANE: Yes, thank you.

So, Bill, you had mentioned 1020 being some new language there. Just for clarification, the

notion of annual adjustments is also identified in 53.1030. So, it just seemed a little bit duplicative adding that, also, into 1020. So, can you explain that a little bit more?

(Pause.)

MR. BEALL: Bill, are you on mute?

MR. RECKLEY: Oops. Thank you, Bob. Inadvertent push of the button.

We'll see if it helps to pull it up. But, from memory, I'll just say that 1020 is the actual cost of decommissioning the facility. So, that's going to be the big number. Well, currently, it's a big number.

The requirement under 1030 is to have a formula for making the annual adjustments to how much money you need. And so, what we did was say, under 1030, the annual adjustments, that you can use the generic equations.

And, Liz, if you scroll down on that, that's paragraph (b).

These are the existing, this is the existing formula for light water, developed for light water reactors on how to do the annual adjustment to the decommissioning numbers. All we say under paragraph (a) is, if you want to develop a technology-

specific formula, you can develop or you can propose that, and we would review it with your application. Maybe the decommissioning of a certain technology would be less dependent on labor and more on the cost of waste disposal. For example, I mean, the labor is a big component for light water reactors because, you can imagine, they're quite large and quite a complex machine, and it takes a lot of time to take them apart. Maybe under another technology, taking it apart is not such a major factor. And so, that's all we're allowing under (a), is a technology or site-specific formula for the annual adjustments.

And, Liz, if you scroll up to 1020, you can see 1020 is the actual development of cost estimate for decommissioning.

And the reason we needed to do that was, again, we don't have the equivalent of the tables that are currently in 50.75 for this is the amount of money you need for decommissioning.

Did that help, Hilary?

MS. LANE: I think it was the language in the last sentence of 1020 that was causing a little bit of confusion. It seemed a little bit duplicative to 1030, where it references the adjustment levels.

MR. RECKLEY: Yes.

MS. LANE: Yes.

MR. RECKLEY: Yes. Okay. Well, I mean, so long as there's a general agreement it needs to be done, we'll look at it to say whether -- I think the reason we did it that way, just it's kind of an editorial almost, that 1020 said you needed to do it, and 1030 tells you how to do it. But we could switch that around and have that sentence lead off in 1030. So, anyway, we'll take a look.

MS. LANE: Okay. Thanks. Appreciate that.

MR. BEALL: Any additional questions or comments on Subpart G?

(No response.)

MR. BEALL: Okay. Not hearing or seeing any, Bill, let's move on to the next subpart, please.

MR. RECKLEY: Okay. Nan?

MS. VALLIERE: Yes, thank you, Bill.

I'm going to provide a brief overview of Subpart H. Subpart H addresses the types of licenses, certifications, and approvals that are available under Part 53, as well as the required content for each application type. We have discussed Subpart H in previous meetings, and as we said then, there's not a whole lot that's new in Part 53 when compared to the

licensing process in Parts 50 and 52.

Part 53 offers all of the licensing, certification, and approval options that are currently offered under 50 and 52, as is shown on the slide. We've highlighted two of these processes; namely, for early site permits, or ESPs, and for design certifications, to indicate that these sections are used as building blocks for the remaining sections. Because the requirements for the content of any application that requires review of the commercial nuclear plant site will largely be the same, we spell out those requirements once for an ESP, and refer to the ESP requirements for the other licensing processes. Likewise, for design information, we lay out those requirements once in the design certification section, and then, refer back to those design requirements for the other licensing processes.

Liz, can we go to the next slide, please?

Slide 26 highlights a couple of the changes we made since we released the first iteration of the preliminary proposed rule language in February. The first bullet refers to requirements that we carried over in the second iteration from the existing Section 50.11 related to the exempting of Department of Defense facilities from NRC licensing requirements.

This may seem obvious, given that Part 53 only applies to commercial nuclear facilities, but to ensure there were no questions about applicability of the rule to such government facilities, we replicated the existing Part 50 requirements in section 53.1120 under Subpart H.

In the second iteration of the preliminary proposed rule language, released a couple of weeks ago, we also removed provisions that would have allowed a construction permit applicant to reference a manufacturing license. The reason for this stemmed mainly from the Part 53 expansion of activities that could be allowed under a manufacturing license, to include possible loading of fresh fuel into the reactor module at the manufacturing facility, as Bill has described in his discussion of Subpart E. This expansion added complications related to a fueled manufactured reactor module being delivered to a site that did not have an operating license, and at the same time, the NRC would not issue an operating license without the reactor being onsite and installed. So, it would have created a bit of a Catch-22, and for that reason, we removed the current connection for a construction permit to reference a manufacturing license. In addition, we thought this

would have been an unlikely path for an applicant to pursue because, if they were far enough along in the design process that they were ready to get a manufacturing license to start producing reactors, it would seem to make more sense to pursue a combined license at that stage.

The remaining changes we made in Subpart H relate to either filling a few gaps identified when Subpart H was compared to the Part 50 and 52 licensing sections or to make changes to be consistent with changes in other subparts, and finally, to format the subpart consistently for each given section, given that Subpart H was initially released in two separate pieces in the very first iteration.

Liz, can we go to the next slide, please?

Slide 27 provides sort of a pictorial overview of the licensing processes covered in Part 53. We have presented this figure in the past when we discussed Subpart H and thought it was a good reminder of how the pieces fit together. The graphic includes all the existing licensing processes in both Parts 50 and 52 and shows their relationships within Part 53. It also provides some linkages between processes that are not laid out in the existing regulation, as shown by the dotted lines on this figure.

As we have discussed previously, Part 53 contains a new proposal to allow a design certification applicant to reference an issued operating license or custom combined license. The staff is proposing that the design certification applicant be allowed to leverage the staff's safety evaluation from an issued operating or custom combined license in a design certification application, and to grant that safety review finality like that provided for a license applicant referencing a standard design approval.

Those finality provisions provide that an approved design must be used by, and relied upon by, the staff and the Advisory Committee on Reactor Safeguards in their review of an application referencing that design, unless there exists significant new information that substantially affects the earlier review decision.

This new connection between licensing pathways will be described in the Statements of Consideration accompanying the proposed rule.

So, that concludes my discussion of Subpart H, and I see Hilary's hand up.

MS. LANE: Yes, thanks, Nan. Hilary Lane, NEI.

We noticed that there were some changes to 13-094, which is emergency preparedness, some significant additional language pulled into that section. So, for clarity, was that text taken from Part 50, Appendix E, Section 2? We're just trying to figure out where that was pulled from.

MS. VALLIERE: Yes. So, I'm looking to see if our emergency planning working group member is with us today. It appears he is not.

So, I know that it was either -- as you will see in Part 53, we have referenced the not-yet-issued Section 51.60, the new emergency planning rule for SMRs and LNTs. So, I am not 100 percent positive at this moment in time whether that new language was taken from the Draft Final Rule or whether the existing Appendix E. And I will have to take a look during a break, and hopefully, will be able to provide you that answer by the end of the meeting, if that's okay.

MS. LANE: Great. Thanks.

MS. VALLIERE: Any other questions?

(No response.)

If not, I'll turn the presentation back over to Bill to continue our discussion going out to Subpart I.

MR. RECKLEY: Okay. Thanks, Nan.

Again, so Subpart I is the subpart that addresses maintaining and revising the licensing basis information. So, it goes through the processes of requesting a license amendment, for example; lays out the requirements for Safety Analysis Reports, and the reporting requirements and the evaluation of changes for NRC approval, the equivalent of 50.59, and then, lays out the control programs, like emergency planning and security, and so forth.

So, Liz, if we could just go to the next slide?

Some of the changes that we made were to -- there was some question, even with the text we released in February, as to where we would put requirements for evaluating change to programs. So, what we decided is the easiest place to put them for the ones that are well-established are in Subpart I. And so, you see the first bullet we added largely from 50.54, 50.54(a) for quality assurance, for example. The provisions to evaluate changes to a QA program or emergency preparedness program or security program, those were largely taken out of 50.54(a) and (p) -- and I'm going to forget -- (q) I think. So, in any case, that looks like a significant addition, but it

largely is just taking the text from Part 50 for change control for those programs and putting it in Subpart I.

Within the equivalent 50.59, which is 1550 in Framework A, we added a provision or criteria for when a plant change would affect the design basis accidents, and we also added a criterion to ensure that a plant design change does not undermine the protections against the crash of a large commercial aircraft. So, those were added.

The last bullet, we added some generic license conditions on that which state things like everyone's subject to the laws and regulations, and I think one of the items addressed one of the generic license conditions, just included the existing provisions for actions during a national security emergency. So, again, those were also carried over from Part 50.

So, I guess the only other mention I'll make under Subpart I, and in particular, the development of 53.1550, is, if people listened to the stakeholder meeting a couple of weeks ago, there was a presentation from Southern Company about their cost-shared activity with the Department of Energy to develop a change control mechanism. This is an add-on

to the Licensing Modernization Project and the technology-inclusive content of the Application Project. And so, we're looking at that activity as we continue to look at our questions, our criteria in Framework A under 53.1550. So, there's some potential insights, in that these two activities are somewhat related. So, that might get -- I'll just leave it there.

We're developing these two things in parallel. And so, we'll talk to each other, and in some cases, maybe the guidance will change; in other cases, maybe we'll tweak some of the language in 1550, based on the insights and tabletop exercises, and things they're planning under that activity.

So, with that, that's really all I had on Subpart I.

I see a hand up, Bob.

MR. BEALL: Yes, Hilary?

MS. LANE: Yes. Thank you.

We had a question on Section 1565(d)(1)(i). That's the QA program section, 1565(d)(1)(i). There's a sentence there that's a little bit confusing to us. It may be a typo, but it states that, "Changes to the QA program description that do not reduce the commitments must be submitted

to the NRC." So, we just wanted to see if that was intentional, if that was a typo. But if it's intentional, that language was a little bit confusing to us.

MR. RECKLEY: I guess maybe we'll take it as a takeaway to look at it. I mean, in any case, it would get reported as part of the update. The question would be, when we look at that, what would need to be submitted for approval? So, we'll look. It's a good comment. We'll look at the text and try to make sure that it's appropriate, either in the context of the provision for when it needs to be submitted for approval or when it just would be captured as part of the routine reporting of changes to the QA plan.

MS. LANE: Thanks.

MR. BEALL: Okay. Any other questions or comments on Subpart I?

(No response.)

And, Nan, I think you had a little followup with --

MS. VALLIERE: Yes.

MR. BEALL: -- an answer for Hilary on her questions about the EP requirements?

MS. VALLIERE: Yes. Yes, Hilary. Thank you.

I did go back and take a look at the language you were referring to, and you are correct, that language is taken out of Appendix E of Part 50. But you may not have noticed that some of that language had previously resided in Subpart E. And so, we moved it from Subpart E over here to Subpart H, and then, added some of the additional detail from Appendix E.

MS. LANE: Okay. Thank you, Nan.

MS. VALLIERE: Sure. Thanks, Bob.

MR. BEALL: Sure.

Okay. So, I think we'll move on to Subpart J, and I think Jordan is going to be leading that discussion.

Jordan?

MR. HOELLMAN: Thank you, Bob.

So, I'll just cover Subpart J, hopefully briefly, for everyone.

Subpart J addresses reporting and other administrative requirements and contains requirements summarized in the following areas:

Requirements to ensure that NRC inspectors have unfettered access to sites and facilities, licensed or proposed to be licensed.

Requirements for maintenance of records

and providing reports to the NRC.

Requirements to notify the NRC in emergency and non-emergency events.

Requirements for financial qualification, and requirements to obtain and maintain required financial protections in case of an accident.

The requirements in Subpart J are taken from Part 50 generally, with minor changes proposed to addressed possible differences related to advanced reactors.

Regarding requirements taken from 50.72, I'd just note -- and this was brought up in our ACRS meeting last week -- that the preliminary language does not take into account a recently-initiated rulemaking activity related to possible changes in immediate notification requirements. So, as with other rulemakings that are ongoing, we didn't attempt to incorporate any changes being proposed in those rulemakings in our proposed rule language, and any changes that we adopt would be captured in the Final Rule stages, or at least that's what we're thinking currently.

In 53.1645, we continue to maintain a section for periodic reports and continue to consider whether it might make more sense to include all

periodic reports in this section. Right now, it only includes effluent reports. So, over the summer, we'll be working to either consolidate all the periodic reports in that section or rename the section to be more specific to the effluents.

Another thing we did in this iteration is looked at 5054, and like Bill mentioned in Subpart I, we were trying to find the logical place in Part 53 for those requirements. Bill mentioned some of them landed in Subpart I that he just covered. Some also landed in Subpart J as well. And an example of that is the bankruptcy provision.

We continue to look at the comments received, and we've identified some areas where we need to explain some of the rule text better in the Statements of Consideration or preamble. A simple example of that is we used the phrase "data links" in lieu of "ERDs," or Emergency Response Data System, to provide additional flexibility for use of alternative acceptable systems.

Another example is the financial requirements section. The financial requirements section was derived from 50.53, which is content of applications in Part 50. And so, we think we've ensured that consistency between Subpart H and Subpart

J on these, but that's just another example of a comment we received that we've sort of been working to consider, as we move forward.

So, with that, I think that's, generally, all I wanted to say on Subpart J.

I don't know if there's any questions.

MR. BEALL: Anybody have any questions on Subpart J, please raise the Teams hand or hit *6 to unmute your phone.

(No response.)

Okay. Not hearing any, we'll complete the Framework A before lunch. So, we have one more left. That's Subpart K, which is quality assurance. So, I think, Bill, you're discussing that?

MS. VALLIERE: No, actually, Bob, it's me, Nan.

MR. BEALL: Okay. Thank you, Nan.

MS. VALLIERE: Thanks, Bob.

As Bob said, the final subpart in Framework A is Subpart K on quality assurance criteria. Subpart K was added to Part 53 earlier this year when we put out the first iteration of the consolidated rule text file for Framework A. And prior to that, QA requirements had been spread throughout the various subparts. We had received

feedback from both internal and external stakeholders indicating a preference for consolidating the QA requirements in one place, as they are currently in Part 50, Appendix B. And as shown on this slide, the requirements in Subpart K of Part 53 align directly with the QA criteria in Appendix B to Part 50. In fact, the requirements in Subpart K are identical to those in Appendix B, except where wording changes were needed to align with Part 53-specific terminology.

We recognize the importance of maintaining consistency with the existing QA requirements because of the potential impact to the supply chain if different QA requirements were introduced in Part 53. And for this reason, we are trying to be very careful to maintain consistency with the existing Appendix B QA requirements.

There was not much new at all to discuss with regard to Subpart K in this iteration. So, I will pause here to see if anyone has any questions on Subpart K at this point.

(No response.)

Hearing none, Bob, I'll turn it back to you to get us to the lunch break.

MR. BEALL: Thank you. Thank you, Nan.

Yes, so that completes the staff's review

of the Framework A for Part 53.

And so, we're going to take a lunch break now for one hour. We'll come back at 1:00 p.m. East Coast Time.

And at that time, we'll pick up with our presentations on Parts 26 and 73 and the conforming changes to those 10 CFR parts.

And with that, I hope everybody has a good lunch, and we'll be restarting our public meeting at 1:00 p.m. East Coast Time.

Thank you.

(Whereupon, at 11:58 a.m., the foregoing matter went off the record for lunch and went back on the record at 1:01 p.m.)

MR. BEALL: Good afternoon. I'd like to welcome everybody back to the Part 53 public meeting. And so, before we get into the discussions on Part 26 and 73, I'd like to see if there's any additional questions stakeholders may have on the Framework A discussions we had this morning. If you have additional questions or comments, please raise your hand or hit star-6 to unmute your phone.

Okay. Not hearing anybody or seeing anything, Liz, can we move on to the next slide.

Okay, I'd like to introduce Paul Harris.

Paul is from NSIR. He's going to lead our discussion on the conforming changes of Part 26. Paul?

MR. HARRIS: Yes, thank you, Bob. My name is Paul Harris. I'm the Senior Program Manager for the Drug and Alcohol Testing Provisions in Part 26, Fitness for Duty programs, I work in the Office of Nuclear Security and Incident Response. And as Bob mentioned on the charge, to develop the proposed rule text and guidance for the fitness for duty provisions for Part 53 licensed facilities. I also work closely with Justin Vazquez, Dave Desaulniers, and Jesse Seymour of the NRC's Human Factors Team, so we try to work together on a number of these activities.

As mentioned, the information I'll be presenting are changes from the first iteration of rule text that was presented on January 6th earlier this year. Since that time, we've continued to focus on formulating a proposed FFD framework in developing guidance that leverages operating experience and appropriately credits the low, very low radiological risk consequences presented by Part 53 reactor operation, its accident conditions, your automated and passive safety and security systems, and foreseeable changes to reliance on human performance.

Within the FFD program area, which is part

of the human performance umbrella, we are compelled to critically evaluate the new paradigm presented by this new breed of reactors that may not be staffed or operated or located like those large light-water reactors currently in operation. Additionally, these reactors may have enhanced passive safety systems and security features, automation, and designs that reduce reliance on immediate operator action.

Saying all of this, however, presents me with a challenge. I, as a nuclear engineer from Penn State, embrace this power-generating revolution. I think it's exciting. I think it's novel. And yet, as an NRC employee, I need to ensure that humans that are assigned to operate, maintain, surveil, and protect these facilities within their design license conditions and NRC-approved plans are fit for duty and trustworthy and reliable. Only in this way can maintain public, private, and regulatory confidence in our proposed activities. I can happily tell you that there are only five topics that we would like to communicate to you today from changes made over the past six months.

On this first slide, on this first of three slides, you will see four of the topics I wish to discuss. The first topic, the first bullet

represents a simplification to the graded approach being proposed for the FFD programs. As presented during our June 10th and January 6th public meetings, we went from two criterion to one. I place this one criterion bullet on this slide to reinforce our mandate to ensure that the proposed FFD program is risk informed in the manner similar to the current FFD structure for large light-water reactor facilities and that being proposed for other Part 53 technical and regulatory areas. If a facility and its operation meets this criterion, although an FFD program still must be implemented, drug and alcohol testing will not be required unless fitness for duty performance demonstrates a need for corrective actions.

Our change to one criterion is an example of effective stakeholder feedback from our public meetings. A facility that may or may not meet this criterion and stakeholder feedback will be an important topic when it gets to topic number five.

The second bullet here is enabling regulations. It enables two practical areas. One, the use of hair specimens for pre-access drug screening and two, the use of portal monitor, passive drug and alcohol screening technology at the protected area access points.

For hair testing, we patiently await for United States Department of Health and Human Services to complete its technical reviews and issue its hair testing guidelines. Following its issuance, the Department of Health and Human Services will then begin its certification of laboratories to test hair specimens to support federally mandated drug testing programs. The current NRC proposal for Part 53 licensee FFD programs is that the hair testing may only be used for Schedule 1 controlled substances, may only be conducted for pre-access screening, must use an HHS-certified laboratory, and fitness for duty policy violations and their sanctions may not be issued for a laboratory confirmed positive drug test or result from a hair specimen. We propose the use of hair specimens as a screening tool for trustworthiness and reliability, not an impairment assessment tool. In the future we could, of course, consider transitioning to its use as a detection and deterrent tool.

For use of passive drug screening technologies at the protected area access point, we acknowledge that many of these technologies are in their infancy. However, enabling their use now is in the constructs of the proposed ruling which could

possibly result in significant enhancement to program effectiveness because all individuals would be screened prior to work, enabling detection of drugs or alcohol that an individual recently used and may have been trying to hide from detection. This should also deter individuals from coming to work knowing that their body may be containing remnants of drug or alcohol use. Passive drug and alcohol screening could also be a cost savings.

Similar to hair testing, a fitness for duty policy violation may not be issued for passive drug screening technologies. However, the screening result will contribute to needing an assessment of the individuals fitness through behavior observation and additional amino assay screening using the employment collection testing and assessment device or a specimen collection that is sent to an HHS certified laboratory for testing.

A principal reason why these technologies are being enabled is because a traditional drug and alcohol random and for-cause testing program may not be entirely effective at all Part 53 licensees -- or pardon me, Part 53 facilities because of the possibility of very small staff sizes and their geographic locations. So we desire to embrace these

innovative testing technologies to help ensure that the FFD program remains effective. As I mentioned earlier, I could see some potential cost savings that the innovative technologies can replace traditional testing methodologies on maintaining FFD program effectiveness. And I definitely look forward to comments and considerations along those lines.

The third bullet on this slide presents topic 4. Here we present a summary of the actual performance measures being proposed in preliminary draft rule language in Section 26.603(d), the performance monitoring or new program requirements. Here in the June and January public meetings, I discussed the performance monitoring requirement, how the details on the actual performance measures were not presented, because the reviews were not completed by the Pacific Northwest National Laboratories and a private company by the name of ICF. They're helping us develop a detail of this performance review program in the guidance. Part of the guidance that we're using to develop this program is NRC NUREG/BR-0303 which provides guidance on performance-based requirements. Not that there is nothing proposed here that should be surprising or of a burden to a licensee that assesses performance and implements corrective

actions to maintain effective program performance. The proposed performance measures are quantitative outcomes of a fitness for duty program with or without drug and alcohol testing. The outcomes are granulated into bins to support a reasonable assessment of performance. Those bins you can see there are bins like licensee employees, contractor/vendors and labor categories such as licensed operators or mechanics or instrument and control technologists. This proposal is no different than what the current light-water reactor fleet should be doing as required by Part 26 with their fitness for duty performance data.

And then I ask the question how does one meet these performance objectives? Well, we measure performance against a standard level of performance that has historically demonstrated that the FFD program has contributed to public health and safety and the common defense of security and protection of environments. That's a lot of words to say, historical FFD performance as demonstrated by quantitative testing results has contributed to safety and security. This historical performance is acceptable for future site performance because it's been demonstrated as such.

Part 53 licensees will have to determine

what their site performance is and compare that site performance to their fleet performance if they are operating within a fleet and also to industry performance. If you are familiar with the Part 26 drug and alcohol testing program, you will see that these performance measures are specific, measurable, and relevant and will be described in regulatory guidance. Licensees or other entities will need to develop thresholds for these performance measures that must be achievable and yet have margin prior to any condition potentially averse to safety or security. And our regulatory guidance will be providing some information how that is to be accomplished.

Lastly, corrective actions must be timely and effective. That's no different than any other program and note that the proposal requires all FFD programs to monitor FFD program effectiveness just like the current rule.

Okay, Liz, next slide, please.

This second slide presents the fourth bullet of the fifth topic that I mentioned previously regarding effective behavior observation at facilities with small staff sizes. This is where I infer that stakeholder feedback would be most beneficial. I would love to hear your thoughts and considerations on

this topic as well as other topics and perhaps some of your solutions and considerations.

First, a bit of background. Historically within the FFD program and with security regulatory framework, behavior observation has always been a requirement. All individuals must do it and all individuals must observe behavior. It is a form of peer checking and teamwork oversight and concern over the health and safety of your fellow worker. Some people might call it Big Brother. I say that's nonsense and ballyhoo. Management, operations, quality assurance, engineering staffs all perform behavior observation even without knowing you're doing this. And security been using video and audible technology to assess human behavior for decades. Note that behavior observation is the hallmark requirement of an FFD program that meets the fitness for duty criterion where drug and alcohol testing is proposed not to be required. An effective FFD program where all individuals can safely and competently perform their assigned duties and responsibilities without drug and alcohol testing places a relatively large assurance on behavior observation. This provides assurance that on-shift human performance is verified through observation, as well as other existing

elements of defense in depth such as teamwork, peer checks, supervisory oversight, and quality assurance and verification.

Yet, for facilities with small staff sizes, how do you actually implement an effective behavior observation program when there are so few individuals on shift? In every single safety sensitive industry out there, there is some sort of behavior observation, whether it's a central alarm monitoring station for a metro train system, GPS tracking of truckers, control of power and monitoring of airplanes, pilot monitoring of an auto pilot instrumentation or some high school student checking your seatbelt on a loop-to-loop amusement park ride, observation of human performance provides a layer of defense for safety and security.

I believe the correlation to Part 53 utilization facilities with small staff sizes is irrefutable. So if a Part 53 utilization facility presents a new paradigm, principally the regulation of a wide range of reactor sizes and locations, how do we do this the right way within one fitness for duty framework and what are the considerations or other options that we might want to consider to ensure that behavior observation remains effective?

For example, for an FFD program, one might consider economics. One might find that the economy to scale associated with a very small reactor generating units, much less its radiological risk, does not support a full-blown fitness for duty program. It can possibly address its potential issue. We propose that the Part 53 FFD program be scaled into three groups. This you will see in the proposed Subpart M of Part 26. This scaling requirement is commensurate to risk technology and innovation, and it should facilitate some cost savings, that we still may need to maintain assurance of human performance like a pilot monitoring autopilot instrumentation during a planned automatic ascent or an unplanned descent.

The behavior observation provision presented here is that layer of defense. It is a way to ensure that these individuals at the controls are being observed by someone other than themselves, whether it be a peer or a supervisor or a remote monitoring station or a security officer in the central alarm station. This is not to be proposed as some sort of video medical diagnosis of some psychological or physiological coalition. It is simply a tool to be used to assess whether an individual is actually at the controls and actually

appears to be fit for duty and conversive.

Next slide, Liz. Thank you.

I believe, as I said earlier, the new paradigm is presented by the Part 53 utilization facilities because they may not be staffed, operated, or located like a large, commercial power reactor and until presented with information to the contrary, I have to say that my experience and information reviews compels me today to present that -- presents that a small on-shift staff size has a potential to grade the conduct of behavior observation. For example, the identification and mitigation of an insider threat. And I fully understand that if a facility meets the fitness for duty criterion which happens to be the same criterion used in the security area, if they meet that one criterion, they don't implement an insider mitigation program. However, a facility still must implement the essential elements of the insider mitigation program such as cyber protection, access controls, physical protection, and fitness for duty.

I know if you're on this slide, that a small staff size could also challenge NRC safety culture. If folks don't understand what that is, we do have that on our website and I could provide that to you after the meeting, or we could discuss that

further. Principally, the challenge comes through the impact of small group dynamics. I also make reference that on the random testing program would be a lot harder to implement and there's potential challenges for for-cause and post-accident testing when there's a small staff size at the facility. Geographically, remote location may only intensity the small staff size challenge.

So our current proposal is to maintain an effective observation program for all facilities; the proposed extension of an electronic monitoring system in the facility control room that only needs a small staff appears to be one effective solution and possibly a low-cost solution. But I'm not saying it's the only solution. I'm willing and able to listen to other thoughts.

And that's the end of my presentation. I hope I didn't ramble too long and I'd love to hear your thoughts and comments and any questions you might have.

MR. BEALL: Thank you, Paul. Any questions or comments for Paul?

Okay, not hearing anything, we'll move on to 473. First up, we'll talk about cyber security.

Juris, can you walk us through, please?

MR. JAUNTIRANS: Good afternoon. Juris Jauntirans from the Office of Nuclear Security and Incident Response from the Cyber Security Division. We only have a couple of relatively small changes to 73.110 which is the proposed cyber security rule for advanced reactors.

The first change is just to get us in line with the rest of Part 53. We had to use the term postulated radiological release and we changed it to postulated fission product release so that it aligns with the rest of Part 53.

And then in the second bullet here, the clarifying in the cyber security plan that there should be the analysis that we described earlier in the rule and I'll tell you about that in one second, that it should be included with the cyber security plan. In that analysis, it comes out of paragraph (b)(1) and I'll read that to you. Analyze the potential consequences resulting from cyber-attacks on digital computer communication systems and networks and identify those assets that must be protected to satisfy paragraph (a) of the section. Paragraph (a) describes our two consequences that we are trying to prevent. And in short, that would be a postulated fission product release caused by a cyber-attack or

any kind of cyber-attack that is used to impact the functions of the physical security requirements, any digital assets used to implement the physical security requirements in Part 53. And that is the extent of our changes since the last public rule issuance.

Are there any questions? Okay. I'll pass it on to Brad Baxter.

MR. BEALL: Thank you, Juris.

MR. BAXTER: Yes, appreciate it, Juris. Yes, good afternoon. My name is Brad Baxter. I'm also from the Office of Nuclear Security and Incident Response. I'm one of the access program managers here within NSIR, and currently serve as a technical lead for 73.120.

Today, I'm here to provide a quick status update. Just like Juris mentioned, we didn't have a lot of changes since the second iteration of the proposed rule text of 73.120 that was issued in, I think it was November 15th of 2021.

Real briefly, we had a few administrative changes to enhance the consistency and clarity of the rule language to be aligned with the Part 52 limited scope rulemaking effort for when an access program needs to be in place prior to fuel load. For example, as you see here, Section 73.120, Introduction and

Scope, as I mentioned, the text was revised to better align with the security threshold requirements under Part 52 for when a licensee or applicants are required to establish, maintain, and implement access authorization program before initial fuel is loaded into the reactor. The staff struck out the reference to the criteria of 53.210(a)(2)(i) for licensees who would meet that criteria and reference to 73.56 where licensees who would not meet that criteria and focus solely on the Part 53 licensees' responsibility. The staff felt the language was redundant and that the security requirements to remain in the Subpart F for operations.

Secondly, the staff provided an editorial change under (c)(2) behavior observation. The staff believed the reference was self-reporting of legal actions and made its own performance element as a (c)(3). This would be consistent with how the current operating power reactors implement self-reporting of legal actions under 73.56 and as that editorial change renumbering of the performance elements under (c) occur. So it's 1 through 9 now, instead of 1 through 10 and with that, that concludes the access portion. So I'll be glad to entertain any comments.

MR. BEALL: If you have any questions or

comments for Brad, Juris, or Paul, please raise your hand, unmute your phone on star-6.

Okay. Can we go to the next slide, Liz?

Are there any final questions or comments on Framework A, or Part 26, or Part 53 or Part 26 or 73 presentations today?

Okay. Steve Lynch, do you have any closing remarks?

MR. LYNCH: Good afternoon, everyone. Thanks so much being here today to talk with us and ask questions to improve your understanding of the elements of Part 53, Framework A that we are developing and also continue to inform the staff of your thinking in specific areas so that as we move through the summer and continue to developing our statements of consideration, we can make sure that elements of this rulemaking are as clear as possible as we move through and get closer to having the complete proposed rule package at the end of the summer.

So we encourage everyone to stay engaged with us. Within the next month we will be scheduling additional meetings on Part 53, particularly related to Framework B, and we look forward to your participation in that meeting as well. Thank you,

everyone.

MR. BEALL: Great. Thank you, Steve. Adam Stein, you have your hand up.

MR. STEIN: Hi. This is Adam Stein from The Breakthrough Institute. I have a couple of questions. I was not able to raise my hand in the meeting earlier, so I hope you'll indulge me to go back to Part -- Section D of Part 53 rule.

I would like a little bit of clarification on a couple small issues. In Section 53.220 now states calculated which addresses some of the uncertainty in trying to measure the risk in the population that is expressed earlier in the rulemaking process. However, it still addresses LBEs which include AOOs, AOOs being events that occur in relatively high frequency during normal operations. Because of that, they are inherently low-dose events and still carry significant uncertainty as far as the effect that could possibly occur from those events.

I would like to point us to Slide 17, if possible, which the staff used for clarification of how the licensing modernization project kind of relates to the different sections in Part 53. Using the figure in this slide, I would like some clarification from the staff as to why the QHOs or

AOOs which are identified here in this particular section of the figure, are needed in the Part 53 rule when separately under Section 53.260, in normal operations, the Part 20 dose guidelines are required to be met and as shown in the figure on this particular slide. The iso-risk line from 10 CFR Part 20 indicates a risk threshold relative to AOOs and it seems that we are identifying two separate, yet potentially competing risk thresholds that would have to be met for AOOs.

So if we could get some clarification on that, I'd appreciate it.

MR. RECKLEY: This is Bill Reckley. One thing within Part 53 is that anticipated operational occurrences are unplanned events and are not included in normal operations. Within Part 50 and 52 to some degree, there's been an interesting history of sometimes including AOOs within discussions of normal operations and sometimes treating them separately, only as unplanned events. So within Part 53 we're trying to clarify that and make more clear that within this framework, anticipated operational occurrences are unplanned events and they're treated and considered separate from normal effluence, normal operations.

So hopefully that answers at least part of the question. The broader question I guess within what you're saying is given anticipated operational occurrences may result in longer term low doses if they occur, how would that get incorporated into the metric in 53.220 or meeting the QHOs. Is that part of the question now?

MR. STEIN: Yes, you did answer part of the question and you have identified correctly the second part of the question.

MR. RECKLEY: And I guess -- I don't think we have any of our health physics people specifically on, so I'll just weigh in that yes, under LMP, they would get rolled in. I think the experience has been that they're not significant contributors given, as you mentioned, the doses for most of what -- for most of the reactor designs and technologies we've seen, the graphic example on this curve is actually probably exaggerated. Most AOOs don't result in any off-site releases.

So the experience has been although they would get factored into that integration, they're not significant contributors.

MR. STEIN: And then, for further clarification, if possible, the -- let me make sure

that I'm in the correct section. In Section 53.220, it states near a commercial facility or in the vicinity. Are we -- should we expect a definition of those metrics, especially considering many developers plan to have varying site battery sizes or potentially an emergency planning zones?

MR. RECKLEY: Yeah, traditionally, those terms for the existing fleet are defined as one mile and ten miles, respectively. We didn't define those distances because we think this is an area where guidance might be appropriate for just the reason you're saying that as you consider all the changes in aggregate, for example, the potential siting of reactors under Part 53 closer to population centers. If that occurs, then the ten-mile reference in the existing guidance -- maybe it would be more appropriate to use a different number.

So again, those terms as they're currently used and as they're used in regards to the safety goal policy statement are one and ten miles, but we intentionally didn't define the distance thinking that future guidance might be appropriate as other changes are made in terms of the siting of reactors under Part 53.

MR. STEIN: Thank you. And one final

question, if I may. The QHOs, as referenced in this particular section are -- say two in one million years. Considering earlier in the meeting, in Part A, you specified that this is a plant-level consideration or a reactor-level consideration of the overall cumulative risk. And this is where you specify the measure of risk. Is this -- say two in one million years per plant -- in terms of plant, not reactor years, correct, or operational years. Is that correct?

MR. RECKLEY: That's correct. It's another of the parameters that's done on a plant basis, not on a -- necessarily on a reactor basis.

MR. STEIN: All right, thank you for all these clarifications. I appreciate it.

MR. BEALL: Thank you, Adam. Anybody else have any final questions or comments for the staff?

Okay. We can move to slide 41.

The staff is planning to host additional topical meetings on the Part 53 rulemaking. The next public meeting is scheduled for June 2022 and will be oriented towards the Part 53 Framework B preliminary published rule language. In addition, the staff will be meeting with the Advisory Committee on Reactor Safeguards in late June to review Framework B and

Subpart F from Framework A.

All new and revised preliminary proposed rule language will continue to be posted in ADAMS and on regulations.gov under our Part 53 docket ID, NRC-2019-0062 prior to any public meeting.

The staff also encourages the public to continue to supply comments on the preliminary proposed rule language using regulations.gov.

The staff also recommends receiving information about Part 53 rulemaking by subscribing to the GovDelivery service at the link on this slide. This will provide you information about the Part 53 rulemaking directly to your email inbox.

Next slide, please.

If you have additional input or suggestions for future topics related to Part 53 rulemaking, please send an email to Nan Valliere and I at the email addresses on this slide. Your interest and comments will improve our rulemaking efforts.

I also encourage you to monitor the Part 53 rulemaking docket on regulations.gov, which again is NRC-2019-0016, for updates and important documents related to this rulemaking.

Finally, we're always looking for ways to improve our public meetings and your feedback is

important. At the end of the meeting, please go to the NRC public meeting website, click on recently held meetings, and look for this meeting. A meeting feedback form will be at the bottom of the meeting announcement.

With that, I'd like to thank everyone for participating in today's meeting and I hope everyone has a great afternoon and this meeting is now closed. Thank you for your participation.

(Whereupon, the above-entitled matter went off the record at 1:39 p.m.)