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UNITED STATES NUCLEAR REGULATORY COMMISSION'S ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

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REGULATORY POLICIES AND PRACTICES SUBCOMMITTEE

+ + + + +

TUESDAY

FEBRUARY 1, 2022

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The Subcommittee met in Room T2D-10 of Two White Flint North, located at 11545 Rockville Pike, Rockville, Maryland, and by teleconference, at 8:30 a.m. EST, Vicki Bier and Joy Rempe, Co-Chairs, presiding.

COMMITTEE MEMBERS:

VICKI M. BIER, Chair

JOY L. REMPE, Chair

RONALD G. BALLINGER, Member

CHARLES H. BROWN, JR., Member

VESNA B. DIMITRIJEVIC, Member

GREGORY H. HALNON, Member

WALTER L. KIRCHNER, Member

JOSE A. MARCH-LEUBA, Member

DAVID A. PETTI, Member

MATTHEW W. SUNSERI, Member

ACRS CONSULTANT:

DENNIS BLEY

DESIGNATED FEDERAL OFFICIAL:

QUYNH NGUYEN

ALSO PRESENT:

HOWARD BENOWITZ, OGC

JONATHAN FISKE, NSIR

DENNIS GALVIN, NRR

JOHN LEHNING, NRR

LAUREN NIST, NRR

JAMES O'DRISCOLL, NMSS

ERIC OESTERLE, NRR

CHANDU PATEL, NRR

MALCOLM PATTERSON, NRR

BRIAN SMITH, NRR

MARTIN STUTZKE, NRR

OMID TABATABAI, NRR

ROBERT TAYLOR, NRR

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

8:30 a.m.

CHAIR BIER: This meeting will now come to order. This is a meeting of the Regulatory Policies and Practices Subcommittee of the Advisory Committee on Reactor Safeguards. I am Vicki Bier, co-chair of the Subcommittee together with Joy Rempe. Members in attendance today are Ron Ballinger, Greg Halnon, Matt Sunseri, Dave Petti, Joy Rempe, Walt Kirchner, Jose March-Leuba. I believe Vesna is on Teams. And we also have our consultant Dennis Bley on Teams today. Is there anybody else that I am missing who's participating?

CHAIR REMPE: I believe Member Brown will be attending later today. He's just a bit late with some personal duties.

CHAIR BIER: Yes, good point. Charles Brown will be joining later.

And Mr. Quynh Nguyen is the designated federal officer for today.

As posted in the agenda on the ACRS website the topic for today is the draft proposed 10 CFR 50 and 52 rulemaking and related activities.

This has been an enormous and wide-ranging task since the rule encompasses such a wide variety of

topics ranging from probabilistic risk assessment, to severe accidents, to emergency planning, to operator licensing, et cetera. Personally I'm particularly interested in how probabilistic risk assessment is being handled, but I know that members will have a½ questions on a lot of other topics as well, possibly also including the relationship to the Part 53 work that's ongoing, although I know that's not the primary focus of today's presentations.

A phone bridge line has been opened to allow members of the public to listen in on the presentations and Committee discussions. To my knowledge we have received no written comments or requests to make oral statements from members of the public regarding today's sessions. However, there will be an opportunity for public comment and we have set aside time at the conclusion of the prepared presentations and discussions for comments from members of the public who are attending or listening into the meeting.

A transcript of the open portions of the meeting is being kept and it is requested that speakers identify themselves and speak with sufficient clarity and volume so that they can be readily heard. It's also important that participants on Teams or on

the phone line should mute themselves when they are not speaking to avoid disruption.

To start off the staff's presentation I would like to call on Robert Taylor, the Deputy Office Director for New Reactors in the Office of Nuclear Reactor Regulation, for his opening remarks.

Robert?

MR. TAYLOR: Thank you, Chairman Bier. Can you hear me?

CHAIR BIER: Yes, we hear you.

MR. TAYLOR: Okay. Great. So my apologies. Today is a day of no school for kids in Montgomery County, so I'm taking my son and some friends skiing today. So I'm joining you from the parking lot of the ski resort, but this is an important meeting so I wanted to have the opportunity to open it up for the staff and to provide some perspective. So thank you for indulging me as I juggle things today.

I mentioned this is an important meeting, but first and foremost I want to congratulate Dr. Rempe on her selection of chair of the Advisory Committee on Reactor Safeguards. I think as you know this calendar year is going to be a very busy year for us on new and advanced reactors and we expect that

we'll do many briefings to the subcommittees and Full Committee, and we look forward to working with you throughout the year to be successful on those activities.

So as you indicated, the purpose of today's meeting is to give an updated on the proposed rulemaking that the staff has been working on since the Commission our rulemaking plan in SECY-15-0002. The objective of this SECY and rulemaking effort is to align the NRC license requirements under 10 CFR Part 50 and 52 and to incorporate NRC staff's lessons learned and the review of new reactor license applications, as well as the construction of the Vogtle plants.

The last time I think we briefed you on this was on March of 2021. We've been working hard on this rulemaking effort since we've completed the regulatory basis and issued that and we're in the process of developing the proposed rule at this time.

We drafted this proposal with input and comments from industry and members of the public on the regulatory basis, which we published in January of last year. So I'd like to point out that the draft proposed rule and the associated draft revised guidance documents are currently under NRC management

review and they have not been reviewed yet by the NRC's Office of General Counsel. So they are still subject to change. Therefore, the contents of the draft *Federal Register* notice should not be interpreted as the NRC's official agency positions on this rule yet.

We do feel that the draft proposed rule addresses the Commission's direction to align Parts 50 and 52, incorporate lessons learned, and otherwise update our licensing requirements to improve the clarity of our regulations and reduce the unnecessary burden on new reactor applicants and licensees.

While we've been drafting this proposed rule the working group has been closely coordinating with the Part 53 Rulemaking Working Group. In fact, some members of the staff are working on both projects. As we indicated before the primary focus of this rulemaking is to align Parts 50 and 52, so what we're attempting to do is to ensure that the same regulatory requirements exist in Parts 50 and 52 and not to develop substantially new requirements as part of this activity, although we are incorporating the lessons learned from the licensing activities that we've done under Part 52.

So there are not planned changes in this

rule related to non-light water reactors. We don't think that is within the scope of the activities we've told the Commission we would do under this rulemaking; we're focusing those activities in Part 53 because Part 53, as you know, is intended to be a technology-inclusive, risk-informed, and performance-based approach which will be applicable to all future types of power reactors as the staff currently envisions it. As the two rulemakings continue their development in this coordination among the staff and management we'll continue to ensure that there are no conflicts in the regulatory requirements.

So last but not least, we're looking forward to having a productive meeting of the Subcommittee members today and we will consider your comments and questions to prepare for the staff's interaction with the ACRS Full Committee members in March of 2022 and further develop the proposed rule.

So I wanted to just briefly touch on the comment that was made about the PRA. So it's a good conceptual piece of this discussion. The idea is that we're trying to align the requirements in Parts 50 and 52 with regards to a PRA. As it exists now if you come to be licensed under Part 52, you need to provide a PRA as part of that licensing approach, but a

similar requirement does not exist within Part 50. So we're aligning the two regulations so that if you get licensed under Part 50 or 52, you'd meet the same safety standards for both regulations. So we're not trying to substantially change the PRA requirements that exist under Part 52 for applicants that are coming in in the future.

So with that I'm going to turn it back over to you, Chairman Bier, and I look forward to a great meeting today. Unfortunately I won't be able to stay for the majority of the meeting, but we do have staff and management who will be attending and participating in the meeting. Thank you.

CHAIR BIER: Okay. Thank you. Have a good rest of your day. And I believe that Brian Smith is also online, Director of NRR Division of New and Renewed Licenses. So thank you for the attention to this topic. I agree that it is extremely important.

I think at this time we are probably ready to turn to -- yes?

CHAIR REMPE: Excuse me for a minute.

CHAIR BIER: Yes?

CHAIR REMPE: I had a comment and question. And then I noticed that Dennis Bley had his hand up, too.

CHAIR BIER: Oh, okay.

CHAIR REMPE: But, Rob, thank you for opening remarks. I appreciate your finding time when you're trying to juggle with an important other activity today, because we all love to ski also here.

But anyway, I just wanted your perspective with respect to alignment. If a design comes in, isn't one of the underlying objectives of this effort to make sure that it's assessed against the same standard so that you didn't -- the staff would again ensure that an equivalent level of safety is applied or obtained whether they go Part 50 or 52? Isn't that kind of the underlying objective of this whole effort?

And also I wanted to note as we go through this activity, you mentioned that there is a lot of guidance that's still under management review. And I'd looked ahead at the slides and so I would like if the staff could identify which guidance will be impacted as they go through the different major objectives that they're going to be presenting today, whether it's related to emergency planning or PRA or severe accident policy. Because there are a lot of guidance that are going to be documents, whether it's Reg Guides or SRPs, that are going to be impacted. And it would be good if they could specifically

identify which one. Okay?

MR. TAYLOR: Absolutely. Thank you, Dr. Rempe. To your latter point, sure we'll be glad to discuss that during today's presentation and meeting. We have a number of initiatives going on to update guidance in a number of different areas for a number of different reasons as we prepare new and advanced reactors. So we can certainly discuss those ongoing activities with you.

With regards to your first point, you're correct, the point is to align and have the same safety standard for licensing new and advanced reactors that come in under Part 50 or Part 52. What we found was that in the building of Part 52 we incorporated things into Part 52 that had evolved from the time we had originally developed Part 50, so things like the Severe Accident Policy Statement, the PRA requirements and things like that. That should be the same whether you're seeking a license under Part 50 or Part 52.

To extend or extrapolate that thinking, that safety basis and that safety standard should be the same even under Part 53, even though we're going to go with a different approach to how to build Part 53, to get a technology-inclusive, performance-based

regulatory framework.

So the standard for safety for the NRC should be the same in licensing new and advanced reactors under any part that an applicant would pursue. That said, there are different ways to demonstrate safety, and so we're going to allow a flexible framework under Part 53 that's less prescriptive than the 50 and 52 frameworks and less deterministic than those in a lot of cases.

So the idea is that we're going to align 50 and 52 as part of this rulemaking to make sure that they're similar since they're both based on a more deterministic -- with a PRA supplemental role in Part 52, and then we'll incorporate that into Part 50 so that you would -- whether you seek a CP&OL or you come in for a design certification and a COL you would meet the same safety standards. So hopefully that answers your question.

CHAIR REMPE: Thank you.

Dennis, I believe you had a question, too?

Is it okay if I call on him, Vicki?

CHAIR BIER: Oh, sure.

CHAIR REMPE: Okay. Dennis, go ahead.

MEMBER BLEY: Yes, I kind of backed off of it, but yes, thanks for the introduction, Rob; I

appreciate it. But in there I think you specifically said that Part 53 will be, as we all hoped, not only technology-inclusive, but meaning any type reactor should be able to use Part 53, not being limited to so-called new reactors. Is that what you said?

MR. TAYLOR: So as the staff currently envisions it, we're working on the definition for what will be covered under Part 53 and we believe we can cast a very broad definition that would allow and meet the NEIMA requirements as they relate to safety. So there are some NEIMA requirements in there that are not necessarily NRC statutory rules, but we believe we could cast a broad net for commercial new and advanced reactors. So you could license SMRs under it, you could license non-light water technologies, and likely you could license advanced large light water technologies under it. So we're still working through those details

MEMBER BLEY: Would you be precluded from licensing an LWR?

MR. TAYLOR: No.

MEMBER BLEY: Okay.

MR. TAYLOR: We do not believe presently you would be precluded. We haven't finished that work, but we're thinking that if you meet the

provisions that are in NEIMA, they are a good basis to say the technology itself doesn't need to be defined. It's the attributes that are important to using Part 53.

MEMBER BLEY: Okay. Thanks. And I certainly agree with you on that. I know along the way we had language that seemed to exclude those, but I hope as we finish up that will be all pulled together. Thanks, Rob.

MR. TAYLOR: Yes, that very definition is something we've been working on and we've I think in public meetings have discussed the idea of expanding that to be more inclusive than it even was at the beginning.

MEMBER BLEY: I've heard it before, but then I haven't seen the words, so that's -- I'm glad it's --

MR. TAYLOR: Okay.

MEMBER BLEY: -- aiming that way. Good.

MR. TAYLOR: Thank you.

CHAIR BIER: Okay. Are there further questions or comments for Director Taylor?

Okay. Hearing none, I think we can move on with the staff presentations for today. I believe that the presenters will be James O'Driscoll from

NMSS, and Omid Tabatabai from NRR. So whoever is going to start can go ahead and get going, I believe.

MR. O'DRISCOLL: Thanks a lot, Chairman -- or Subcommittee Chairman. This is Jim O'Driscoll. I'm the lead rulemaking project manager on the effort.

We've already talked about the purpose of today's meeting, and we met again last March on this. And if folks wants to look at the transcript for that last March meeting, I can tell you what that is. It's accession No. ML21075A211.

So again, this meeting is going to -- is the opportunity to discuss the specific items in the rulemaking as described in the preliminary draft proposed rule *Federal Register* notice that we made available to the ACRS just recently. And this document can be found under ADAMS accession No. ML22020A002.

So the detail of today's discussion is going to be at a high level because the -- as we said, the rule scope is so broad. And we may not have the specific subject matter experts available on the phone to address your question if it gets too technical, however, you always have the option to submit your questions formally. I also understand that there's

going to be a follow-up ACRS meeting, Subcommittee meeting scheduled for Friday, February 18th possibly, where the staff will have another opportunity to brief ACRS on this issue.

We're also going to discuss a little bit about the estimates of costs and savings for the activity. And as we go, we'll pause for questions and answers on any topics the ACRS wants to talk on.

And finally, we'll provide you an update on the next steps of the rulemaking.

So again, we hope this interaction will help you understand the content of the preliminary draft proposed rule that's under staff management review; as we said, it's not complete yet, and the status of the rulemaking.

So I think we said this before, but I'll say it again: Like our previous public meetings we'll take the information, perspectives, and questions we hear today into consideration when developing the -- further developing the proposed rule. We don't intend to formally respond to comments that you provide at this meeting. As I'll discuss, we'll respond to written comments about the subject that we receive during the public comment period for the proposed rule which will be coming up after it gets published, and

I'll go over that. I will briefly remind you of the ways that you can provide comments that is detailed in the preliminary draft *Federal Register* notice.

CHAIR REMPE: Jim, just to make sure we're all on the same page, it's my understanding that ACRS is going to be providing a letter during our March Full Committee meeting.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: And I guess if an individual member wants to submit a public comment, that's fine, but --

MR. O'DRISCOLL: That's absolutely correct. That's right.

CHAIR REMPE: Yes, but there's no reason to go through like that we would as ACRS be providing public comments. Okay? Because that's kind of come up in a couple meetings lately and I want to make sure we understand that. Okay?

MR. O'DRISCOLL: Right. Okay. Right, so I mean let me make sure I understand. ACRS is like any other member of the public. They can submit public comments like any individual that's out there.

CHAIR REMPE: Individual members. Okay. So --

MR. O'DRISCOLL: Individual member, yes.

CHAIR REMPE: Yes.

MR. O'DRISCOLL: Yes. Okay. Yes, so all right.

So just a couple of things: Please note that I'm going to be -- there's going to be some acronyms here and a list of the acronyms used in the slides is at the end of the presentation. I'll try to say the full term at least once to help folks follow along.

I'll also note that a list of the ADAMS accession numbers that I mentioned before, and I will continue to mention that from time to time, to all the documents referenced in this presentation can be found at the end of the staff's presentation.

And please be careful not to discuss any safeguard, security-related, classified, or proprietary information during the meeting. Although we intend to have an open dialogue, please note again that the NRC staff will not be making any regulatory commitment during the meeting.

All right. So we just had our opening remarks and I will move on. So we're on slide 4. So thanks, Vicki and Rob, for those remarks.

So we're going to roll into the presentation. And again, I'm Jim O'Driscoll and I'm

the lead rulemaking project manager on this activity. I'm in the Office of Nuclear Material Safety and Safeguards in the Division of Rulemaking, Environmental and Financial Support, otherwise known as REFS. Also joining me today is Omid from the NRC's Office of Nuclear Reactor Regulation, Division of New and Renewed Licenses. And we have several folks on staff on the call if needed.

So next slide. All right. So the purpose of the rulemaking. And I think we covered some of this. The staff's engaged in rulemaking to better align portions of the regulations to 10 CFR Parts 50 and 52 in four areas as described in the preliminary draft proposed rule. So four areas that are alignment. Staff will also address items derived from lessons learned from previous new reactor licensing activities. As Rob said, the licensing reviews and also the reactor construction efforts that are described in the preliminary proposed rule.

And again this activity implements the Commission's direction in SRM-SECY-15-0002. And again the goal is to better align Parts 50 and 52 licensing processes such that equivalent designs submitted for NRC review under each licensing process are assessed against consistent technical standards that yield

outcomes with equivalent demonstrations of adequate protection, security, and environmental protection.

So in 15-0002 issued on January 8th, 2015 the staff made several recommendations to the Commission regarding policy and regulatory updates to ensure consistency in new reactor licensing reviews. The staff also made recommendations to address staff-identified lessons learned obtained through the licensing reviews completed up to July 2019. These changes are intended to improve clarity and reduce unnecessary burden on applicants and staff. So as well as these the staff has addressed or intends to address editorial and administrative changes as well.

Okay.

CHAIR REMPE: Hold on for just a second.

MR. O'DRISCOLL: Yes?

CHAIR REMPE: I've got a couple of questions on that slide.

MR. O'DRISCOLL: All right. I'm going back. Hold on.

CHAIR REMPE: It's actually just in the introductory type of remarks --

MR. O'DRISCOLL: Okay.

CHAIR REMPE: -- that I had several questions, so you don't have to go back if you don't

want to.

MR. O'DRISCOLL: Okay. All right.

CHAIR REMPE: So in the prior meetings, a couple of them, individual members of ACRS have brought up the fact that there's a difference in Parts 50 and 52 in that there's always this final review for Part 50 before an applicant is granted an operating license. There is no final review that might accomplish a similar objective in Part 52 to look at the cumulative effect of changes made during construction as ITAACs were closed.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: And I know Member Ray, who has retired from this Committee, was a very strong advocate that something like that needed to be added. And I've mentioned in a couple of meetings, or in meetings since he retired and I haven't seen anything in the information we've been provided to consider that. Has the staff thought about that?

MR. O'DRISCOLL: Yes, we're not changing the -- essentially the real kernel with Part 52, which is one design, one review. So basically we still are hanging our hat on the fact that ITAAC, once satisfied, basically covers that purpose. Now yes, there is a change process associated that we are

actually putting in some flexibilities for changes during construction, but that process should not -- does not in our opinion, or my opinion does not cause us to rethink the role of ITAAC and its role in verifying that the Commission's findings, when they certify the information, are -- remain valid. Does that help?

CHAIR REMPE: Well, I think actually Member Dimitrijevic had pointed out in the last meeting even that if a PRA were available in Part 52 and were kept up to date and sufficiently detailed it might give confidence that the cumulative effects of changes during construction were not important, but I'm not sure that the staff agreed with that. But that was kind of what I was expecting you to say.

MR. O'DRISCOLL: Right, and I wouldn't disagree with that. We have PRA experts on the line and I would -- I can assure you that the items we're doing for Part 50 and 52 in regards to PRA provide more assurance and make it clearer on the obligations of basically maintaining the PRA during the construction phase. And there's some clarity we're adding to the Reg Guides on what exactly that means as far as that goes. In other words, what you have to do at the end when you're doing your walk-downs, et

cetera. And I think we have Malcolm on the phone; he can talk to that when we get up to the PRA stuff. Does that help?

CHAIR REMPE: Okay. I see his hand up if he wants to add to something now.

MR. O'DRISCOLL: Okay.

CHAIR REMPE: I guess it's allowed, if it's okay with you.

MR. O'DRISCOLL: Yes, it's fine. I'm not sure how to -- I think, Quynh, you do that, right?

CHAIR REMPE: Yes, so his mic is open. He can speak up.

MR. PATTERSON: I think I can speak. Can you hear me?

CHAIR REMPE: We can.

MR. PATTERSON: Very simply I'd say before the license is allowed to load fuel they have to update and upgrade the PRA. There are walk-downs performed to make sure that the assumptions of the seismic margins analysis and other aspects of the PRA have been preserved during construction. The PRA has to be updated to match the as-built plant. So I think we have that step at the end of construction to make sure that the PRA is brought to the level required for the operating phase.

CHAIR REMPE: And does any guidance need to be changed to accomplish that objective, or you think it's there?

MR. PATTERSON: I think it's there for Part 52 plants. It's necessary to change the guidance to ensure that it applies to Part 50 plants as well. This is addressed in 50.71(h)(1), and we'll get to that later.

CHAIR REMPE: Okay. And that's REFS Guide 5071(h)(1), or what is it you're talking about.

MR. PATTERSON: Sorry. That's Regulation 10 CFR.

CHAIR REMPE: Oh, 50.71? And then you said something about the guidance needing to be changed. Which guidance?

MR. PATTERSON: The main change to the guidance is to make sure that it applies to Part 50 plants as well as Part 52 plants.

CHAIR REMPE: Okay. So there's not a Reg Guide or an SRP that you think needs to be -- that will be changed to accommodate that?

MR. PATTERSON: There were minor changes to the Reg Guides and SRPs to effect this scope change.

CHAIR REMPE: And which ones? Which

chapters, which Reg Guides?

MR. O'DRISCOLL: Reg Guide 1-200, Reg Guide 1-201, SRP Chapter 19.0, SRP Chapter 19.1. And that's all I can remember.

CHAIR REMPE: Okay. The last general comment that I had -- well, actually there's two: One is your opening remark talked about security. And yes, you're right there has -- there was an SRM issued in 2003 where the Commission directed ACRS and the rest of the staff on how to divide the security topic. And I'd remind you that ACRS is allowed to -- has been asked to look into accident progression, technical issues, et cetera.

So when you start talking about -- there's one slide here that mentions changes to physical security. I think that it would behoove us to understand information that you've already presented in open meetings regarding which changes were made to Part 50 and this Part 50-52 alignment issue so that we can understand whether we should be inquiring further. Because there is some scope regarding accident progression that we are allowed to bring up, right?

MR. O'DRISCOLL: I do not presume to debate you.

(Laughter.)

CHAIR REMPE: Anyway, I just wanted to mention that because I am interested because micro-reactors and accident-tolerant fuel, HALEU, those kind of things could come under ACRS purview, and we want to make sure we follow the Commission direction on that topic.

MR. O'DRISCOLL: Okay.

CHAIR REMPE: And then the last item I wanted to mention was that I just was curious if the staff considered that some of the applicants that are coming in nowadays are not the old-time applicants we were used to, like by standards in the U.S. And as you were doing this alignment issue if you considered the fact that a different type of applicant is coming in now? You know where I'm going on that kind of a question, Jim?

MR. O'DRISCOLL: I think I know where you're going, but I think the answer is that our standards are our standards. There's a certain level of detail that's needed in the applications to achieve our ends. So ultimately we're going to need that level of detail in order for us to perform the function that we're supposed to perform. And that level of detail may require a significant amount of resources to be spent by the applicant. And I don't

see that changing. Or I don't see how we could have it both ways, in other words. That's my personal opinion.

CHAIR REMPE: Well, I guess I was seeking clarity, maybe more clarity than one assumed in the past is needed. And I have some questions later on that I'll try and relate to this point, but that's where I -- I just thought it was better to bring that up now than just out of the blue later on. Okay?

MR. O'DRISCOLL: Sure.

MEMBER PETTI: This is Dave Petti. Just a follow-up question: I'm more concerned about -- with these newer reactor design teams coming in and potentially less licensing experience that the -- the historical guidance was built on a tremendous amount of experience in the legacy vendor shops with people that just discovered their bread and butter. Do you see the need to expand the guidance, be more explicit so that the learning curve is less for the new folks coming in?

CHAIR REMPE: That's what I was trying to say. Thank you.

MR. O'DRISCOLL: So I've heard the question and I can respectfully say that that is outside the scope of this rulemaking, but just knowing

-- as a technical reviewer we have pre-application activities. We've done it before with more experience and we've done it with other applicants. So I would imagine those efforts, pre-application activities would continue to whatever degree is needed to explain the regulation to the applicant. But again, we haven't -- that is more of an outside-the-scope type of question for this rulemaking. Does that help?

CHAIR REMPE: Well actually I think Dennis was really adamant in prior meetings about you can't interpret the rule until you see all the guidance. And the guidance is what better clarifies in the rule. So that's why I think the guidance -- and that's why I'm going to be asking you which guidance was changed for this rulemaking language as we go through this a bit more?

MR. O'DRISCOLL: Yes.

CHAIR REMPE: Because I really think they're going to need to understand. It will help make the process more efficient if --

MR. O'DRISCOLL: Yes, I have that information handy. The slide doesn't directly speak to it, but I can answer that and be corrected by the tech staff on the line.

CHAIR REMPE: Okay. And then there's

another hand up, and with this set up here it takes me a while to scroll because I'm a new learner here. Brian Smith has his hand up right now. Is that okay to --

MR. O'DRISCOLL: Yes, yes.

CHAIR REMPE: -- speak up? Okay.

MR. O'DRISCOLL: Please. Yes.

MR. SMITH: Yes, ma'am.

And, Dr. Petti, back to your question on the newer reactor vendor developers that are out there. At this point in time we don't really have plans to add a lot more detail to our guidance documents essentially just for them. Jim I think hit the nail right on top of the head there on the pre-application interactions with us. We've been highly encouraging that for all of these vendors. You've had a lot of interaction with Kairos leading up to their Hermes interaction on their topical reports.

We issued a white paper on pre-application engagement with the NRC on a long list of items that we recommended that they interact with us on prior to submittal of an application to help guide them if you will along the path of developing sufficient applications to come into us when they're finally ready to do so. Hope that helps.

CHAIR REMPE: We may have more questions on that topic as we go through. And in fact, one other item before you leave this slide, which is not up on the screen now. But it's another higher-level comment I had when I was going through this.

I saw that you have changed from earlier versions of the language about -- that you've added some details about -- and you've added words as applicable a couple of places --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- to try and avoid exemptions. But I'm wondering if -- how much effort when you were coming up with this language you thought about just making the whole effort more performance-based? I'm thinking about TMI-type --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- which is why I'm thinking about.

MR. O'DRISCOLL: So I think it is in there. And the fact that we -- the TMI items; that's Appendix C we called it, works together or with -- we have to do Part B, too, which is the PRA stuff. So in other words, if you remember, TMI; this is pre-PRA, we saw an accident; we put up a whole bunch of deterministic stuff in the regulations, and PRA in the

background became more important. And then we've as an agency said -- appreciated the value of PRA and we said okay now in the Part 52 process you're going to have to put the PRA in the front. You need to think about that at the design phase.

And so what we're trying to do with Part 50 in this rule, in addition to updating, which means various things to the TMI requirements -- we're also saying hey, look, Part 50 plants, you need to give us the results and the summary of your PRA at the construction permit phase. That way we know that you guys were thinking PRA and risk all the way in the beginning. Does that help?

CHAIR REMPE: It does. I guess what I'm thinking is I still see some things -- and although you've added the words as applicable, I'm wondering if one could have stepped back and said something that's more performance-based, like keeping the hydrogen below a certain level instead of worrying about recombiners or igniters or whatever, or for venting and depressurization, if you had a more performance-based so you avoid some specific features.

MR. O'DRISCOLL: Right.

CHAIR REMPE: For example, I know with Fukushima we're still trying to understand the sources

of hydrogen that led to the explosion in Unit 3. And maybe it wasn't from fuel cladding oxidation or other known sources to exist. What if there was another new source? And you might have new information that might come into play that you hadn't considered. But I know it's hard to predict the future, but --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- it's just something I was thinking about when I was reading the wording of the language.

MR. O'DRISCOLL: But I would submit that I think PRA covers that. The beauty of PRA is that once you find something new, you find a new failure mode, you've got to address it. You have a PRA. You've got goals, safety goals for your plant. And that PRA is supposed to support the fact that that plant is -- reaches those goals.

And we find out, let's say, like you said, a new failure mode, another source of a dangerous situation, well that has to get modeled in there. And if you have a requirement to have the PRA in all future applications, you're kind of locked in. You're future-proofed, in a way, to a degree.

So these deterministic requirements, although some we kept because quite honestly we don't

have any other regulation that we've written since TMI that covers that particular aspect -- others we've removed because the PRA, if you would have it, if you had it, Part B, you would -- you don't need to have that analysis of the aux feedwater or whatever. So we took that stuff out.

CHAIR REMPE: You've made progress, I agree. I'm just wondering if more could have been done. But we'll go there later today.

MR. O'DRISCOLL: Sure.

CHAIR REMPE: I just wanted to have that discussion early on. And I'll be quiet for a while and turn back over to my co-chair.

MR. O'DRISCOLL: Okay. All right.

CHAIR BIER: Okay. Any other questions or comments before we move forward?

Okay. Then go ahead, Jim. Thanks.

MR. O'DRISCOLL: All right. So we are on slide 7 for those folks on the phone and not following on the screen.

So this is our typical rulemaking process. You've seen this before. Rulemaking is how the NRC developed its regs. With the publication of the reg basis for comment; that was back in January of last year, we've completed the tasks in the second box,

that green box, which is the regulatory basis phase, and we're now in the third box, which is the proposed rule phase. And we've completed the 75-day public comment period for the regulatory basis.

And the staff held a Cat 3 public meeting, as you remember, in March -- well, March 4th for the ACRS and March 3rd for the general public -- where we briefed what was basically the contents of that regulatory basis and also to encourage comments.

So we got some comments. And the written comments we received during that comment period went into the docket for the rule. In the preliminary draft proposed rule we've included a summary of the stakeholder interactions, the comments and the key messages we've received from the public on the regulatory basis. And in addition we have included summaries of the public comments received and the staff responses. We put that in the preliminary draft proposed rule preamble discussion.

Now there's one word is -- that's a new word, right? We used to call that the statements of considerations, but I going to -- I think I'm going to be the first ACRS meeting that I'm not going to call it the SOC. It's called the preamble. So that's -- but that's what I'm talking about. So we basically

put the comment responses that relate to that item directly in the discussion on the technical area.

So we developed the rule. The draft proposed rule was entered in management review and concurrence just this past December, December 6th. And January 13th of this year we received division director-level concurrence on the primary draft rule. The preliminary draft is now at the office director level of concurrence.

The staff is on schedule to send this preliminary draft proposed rule to the Commission in May of this year. When published we plan to have a 75-day public comment period on the proposed rule and we'll also hold a public meeting during that public comment period.

So the next major step will be the development and the publication of the final rule. We will continue to provide opportunities for ACRS to comment on this process. Before the staff sends the draft final rule to the Commission you will again have the opportunity to review the draft final rule and provide written comments to the NRC staff. We expect to support an ACRS meeting for that purpose.

Any questions on this slide?

All right. So I'm going to go through a

little bit of milestones here so you have it all. So as we've kind of mentioned before, although we received direction to commence rulemaking in 2015 -- that's when that SECY-15-0002 was signed. In that SECY the Commission directed the staff to prioritize the project in accordance with Project AIM. And if you recall, the purpose of Project AIM was to ensure the staff continued its focus on those tasks seen as essential for our mission as projected in subsequent years. To that end this rulemaking was deliberately budgeted to start in fiscal year 2019. In other words, fiscal year 2019 was the first opportunity to put it into the budget and we put it into the budget not as an emergent issue, but as a planned activity for the future.

So in October of 2018 the staff's first -- we commenced work and our first task was to clearly define the scope of the regulatory basis for the rulemaking. So from the staff's outreach efforts inside and outside the NRC the staff collected a large number of items to consider.

On January 15th, 2019 the staff held a Cat 3 public meeting to request feedback from the external stakeholders on what the staff should include in the rule.

NEI arranged for a panel of industry representatives to attend. Using the input from the staff and the stakeholders the staff aligned on a scope on July 11th, 2019.

In late August of that year the staff issued the information paper SECY-19-0084, which provided information to the Commission and the public on the status and scope of the regulatory basis that we planned to write.

On September 20, 2019 the staff briefed members of the ACRS Subcommittee on the regulatory policies and practices, the subcommittee. The staff received views and comments from ACRS and individual -- as individual members. There was no ACRS letter issued on the topic at that time. The slides and transcript for that meeting are available in ADAMS at accession No. ML19294A009.

All right. Slide 9. So we held a public meeting November 21st of 2019. In that meeting NEI and other industry representatives asked questions and provided comments on the scope of the rule as it was described in that SECY. The slides and transcript of that meeting are available in ADAMS at ML19344C768.

In February 2020 the staff developed the first draft of the regulatory basis. In April of 2020

the NRC held another public meeting where we discussed several specific issues that were of interest to the public. The slides and summary of that meeting can be found in ADAMS under ML20141L609.

All right. So in January of last year the NRC published the regulatory basis for public comment, as we said before. We held a 75-day public comment period and that comment period actually was extended for a month at the request of NEI. In the public comment period the NRC solicited comments on the regulatory basis for consideration when developing the proposed rule.

So on March 2nd and March 4th the staff held public meetings to provide the public and ACRS an update on the rulemaking, to answer any questions the public and the ACRS had on the regulatory basis that was out for comment and to solicit public participation and ACRS inputs on the comment process. The slides and summaries of those meetings can be found in ADAMS under accession Nos. ML21076A098 and ML21075A211, respectively.

All right. Next slide, slide 10. The comment period ended on May 14th. That was with the 30-day extension. Also in late May the senior technical project manager, Omid, received the first

drafts of the proposed rule inputs from the technical writers. The staff developed a working document and incorporated summaries of the public comments received and the rulemaking project manager, me, received the final technical inputs in early November of last year.

In December the preliminary draft proposed rule entered management review in the concurrence process. And all of these efforts are in direct support of the next steps, which is slide 11.

All right. For the next steps in this project the staff will continue to address management input received during the concurrence process. We expect to complete management review of the proposed rule by early May and send it to the Commission by late May. After this the Commission reviews and votes on the proposed rule. After a favorable vote from the Commission the staff will publish the proposed rule for public comment.

So under the current schedule in March 2024 the staff will forward a draft final rule to the Commission for approval. We continue to assess our process for efficiencies to improve the schedule. So we're trying to improve this, try to make it as efficient as we can.

Next slide.

CHAIR REMPE: On this --

MR. O'DRISCOLL: Yes?

CHAIR REMPE: In the schedule over the last several slides when exactly will all the guidance be done?

MR. O'DRISCOLL: So we are required -- and I don't recall the SECY, but in rulemaking space we are required to provide all the guidance that is needed to understand the rule to be available for the Commission to review. So although they're not physically in the rulemaking package, the Reg Guides are -- that we are talking about and we will talk about are -- have already been drafted. They have gone into concurrence with the rule that I mentioned before.

And they are also -- they've been through the division director level of concurrence. And those documents will be made available to the Commission for review in May, basically when we sign out the rule to the Commission. So we have substantially -- well we have essentially those guidance documents ready to go. Does that help?

CHAIR REMPE: Okay. Now I'm thinking about Part 53 --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- and I thinking about the fact that a lot of the guidance that you'll be identifying today, as well as the SRP, would be also changed by Part 53 activities.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: And I don't think you're going to have two sets of guidance, like 1.200 or --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- 1174. You're going to have one.

MR. O'DRISCOLL: Right.

CHAIR REMPE: And this came up a couple of weeks ago, too --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- with the ISG for construction permits. How do you keep track of all the --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- changes?

MR. O'DRISCOLL: So let me try to explain. So you're right, when we're doing a draft guide in support of a rule we're only making the changes in the draft guide and we're only -- that support that rulemaking change described in the FRN. So there may be a lot of stuff we need to do with Reg Guide 1.206,

for example. We are not going to put all the stuff that we need to do in that in the draft guide when we prepare it for this rule. We only discuss the changes and show the changes that relate to this rule.

So what does that mean? It means that there's a version of that guide floating around there that could be different than another version of the guide that somebody else is working on for another purpose.

And how does that all get put together? That's a good question. The issue is is that when this rule goes up to the Commission for signature and it comes back down, that could be at some indeterminate point in the future. We absolutely have to make sure when it goes out for public comment that that Reg Guide reflects on the changes -- basically it's based off of what's actually in effect at the time the rule is going to go out for public comment.

So let's say this rule is first before 53 and there's no other changes. Well, the next Reg Guide version that goes out will be shown this version of Reg Guide 1.206. But even then it's not signed off. It's not -- become official until this rule becomes final, which is in March 2024, if it ever does. If we decide not to do this rulemaking, guess

what, that Reg Guide version disappears.

So at some point the Reg Guide has to be reconciled with what's actually in effect. So basically when we send it out for public comment, we're trying to show what's out there and what we -- and choose to change for this activity. The same rules apply for Part 53. And of course both of those rules we try to align as best we can, but we don't -- we can't predict the future.

We don't know if there's going -- if Part 53 is going to be further fast tracked, or maybe this rule might be fast tracked. And one rule might get ahead of another. We can't obviously predict that. But we do have systems in place to make sure that we're not talking cross-wise. Also, the same -- like we said before, the same guy or girl that's working on this change, they're working on both rules most likely and they're well aware of these differences. So we think we got it covered. Does that help?

CHAIR REMPE: So let's say we have Reg Guide 8.B that supports emergency planning, and you've made some changes for Part 50/52.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: So it's Reg Guide 8.b Rev 2.

MR. O'DRISCOLL: Rev 2?

CHAIR REMPE: And the guys working on the EPZ rule --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- say oh, I'm going to make some changes also. So they take your draft, because you got ahead of them --

MR. O'DRISCOLL: No, no, ma'am. No, no, no, no.

CHAIR REMPE: They go back to the originally-issued one?

MR. O'DRISCOLL: They go back to the original. And they also call it Rev 2. And if they're lucky enough to go final, then that really indeed will become Rev 2. And guess what, Jim's rule, I have to then change the -- adjust the changes in the draft to reflect what's actually out there, which would be Rev 2, and we would have a Rev 3. That won't happen until we're close to publication, all the way after the Commission votes. That's part of the SRM adjudication process.

Basically when this gets voted on the Commission's going to -- I mean, it's going to be perfect, right? So they're not going to make any changes; of course not. They're going to make changes. They're going to ask us to update this, do

this, don't do that. And we'll have -- given a certain amount of time to address those changes. And a part of that is to make sure that the guidance -- you know, this is camera-ready for public review. Okay?

CHAIR REMPE: Okay. So the Commission theoretically could see three versions of Reg Guide --

MR. O'DRISCOLL: Yes. Yes.

CHAIR REMPE: -- 8.B?

MR. O'DRISCOLL: Or --

CHAIR REMPE: One to support the emergency planning; one to support your Part 50/52; and one to support Part 53?

MR. O'DRISCOLL: That is right.

CHAIR REMPE: And they all would be different --

MR. O'DRISCOLL: Right. And so --

CHAIR REMPE: -- changes and they're going to have to try and muddle through that?

MR. O'DRISCOLL: That's right?

CHAIR REMPE: Okay. And there is a saving grace. Reg Guides are run centrally out of the Office of Research. There's Reg Guide PM. Those folks are keeping all the balls in the air and keeping everything aligned. So there are folks dedicated to

make sure that that goes smoothly.

CHAIR BIER: So if I can summarize briefly and kind of informally -- it sounds like what you're saying is that just even though from an engineering perspective it looks like it would be much more efficient to make one set of changes and accommodate everything from a regulatory perspective, that can't be done because there has to be a version that's ready to go when anything gets approved. Is that a fair --

MR. O'DRISCOLL: That's right. The process is is we have -- this is -- we're all subject to notice and comment, all of these. Even if you don't have a rulemaking, if you do a Reg Guide, our process calls for -- if you're going to issue a Reg Guide as a routine update, it's got to be noticed and commented. So everything needs to have an FRN associated with it that explains the changes. And it would be -- essentially it's scope creep. In order to do it otherwise we would have to somehow delay all the rulemakings and have them perfectly synchronized so that they all go -- and that's not going to happen. That's not how we work. So yes, this is an unavoidable feature of rulemaking.

CHAIR BIER: Thank you. I think that's really a helpful explanation. And I see Dennis has

his hand up also.

MR. O'DRISCOLL: Sure.

MEMBER BLEY: Yes, I was going to say something similar. I think what Jim's just talked about is kind of crucial to the things that have been bothering many of the folks on the Committee. And that Reg Guide tells you how you meet the regulation, so it has to be consistent with the existing regulation, or the one you're about to pass, which kind of makes all this make sense.

I guess your comment, Jim, that it's not going to happen -- well, it seems to me it would make sense to hold these and get them out at the same time, but I guess there are forces moving on each one that want them in place as soon as possible rather than --

MR. O'DRISCOLL: Right.

MEMBER -- synchronizing, putting them all out together, which would simplify this a bit.

MR. O'DRISCOLL: Right. So, Dennis, if I could humbly submit that -- like this rule here, for example, it's -- I don't want to say it's world hunger, but it's a million things. Any one of these things could snag the whole show. If we have an issue on one item, the whole thing stops until we resolve it. So we have eight parts we're touching in this

rule. We have 60 -- I'll go through this. We have 60 items in scope. So it just becomes impractical.

MEMBER BLEY: Let me make a last comment though on this area. Not all 60 of those are going to result in changes in the guidance, I wouldn't expect. There are some changes in the guidance that are just kind of bringing it up to date with current practice, which --

MR. O'DRISCOLL: Yes.

MEMBER BLEY: -- whether you were working on 53 or 50/52, they'd kind of be the same kind of additions.

MR. O'DRISCOLL: Yes.

MEMBER BLEY: So that probably helps simplify things, especially if the same person or small group is in charge of each of the guidance documents so that they can track them under both rules. Anyway thanks. That was a helpful discussion.

MR. O'DRISCOLL: Great. All right.

CHAIR BIER: Any other questions or can we move on?

Looks like we're good. Thanks, Jim.

MR. O'DRISCOLL: Okay. So we talked about the -- going to the next slide here. So I want to do a little talk about this. And I apologize in advance.

I was told that maybe you guys don't want to hear about this, but I think this is also helpful to talk about. So please indulge me on some basics.

So what's the proposed rule? A Notice of Public Rulemaking is the official document that announces and explains the NRC's plan to address a problem or accomplish a goal. All proposed rules must be published in the *Federal Register* to notify the public and to give them an opportunity to submit comments. The proposed rule and the public comments received on it form the basis of the final rule.

The proposed rule will be referenced -- will reference a preliminary cost-benefit analysis of the proposed changes. Proposed rules have preambles which were formerly called SOCs, or statements of considerations at the NRC. So the preamble contains a summary, the date and contact information, and supplementary information.

A proposed rule begins with a summary of the issues and actions under consideration. It also states why the rule is necessary. Under the dates and addresses captions the NRC invites everyone to comment on the proposed rule, sets a date for comments to be submitted, and specifies the method for conveying the comments. The FRN will encourage -- this one will

encourage electronic submittal of the comments through the official federal electronic comment portal, regulations.gov.

So in the supplementary information portion the NRC discusses the merits of the proposed solution, cites important data and other information used to develop the action, and details its choices and reasoning. The NRC just also identify the legal authority for issuing the rule. Following the preamble the NRC publishes the regulatory text of the proposal in full.

So the preamble is very important. We sometimes -- think of this way: we're trying to -- this is something for the future where you try to get inside the head of the NRC at the time that they approved the rule. Why did they say this? What were they thinking? That's the kind of information that you get out of a proposed rule preamble. It's very important and it's used in the future when we have to look at things we maybe never thought of that come up and what did we think when we wrote this? So that's the sort of thing that is important here.

MEMBER HALNON: Hey, Jim, this is Greg Halnon?

MR. O'DRISCOLL: Yes.

MEMBER HALNON: Since you brought it up, the cost-benefit analysis, about -- maybe it was a decade ago industry worked really hard with the NRC to try to improve that process to get a better cost-benefit analysis with industry input. Is this -- preliminary cost-benefit analysis, does it get any industry input --

MR. O'DRISCOLL: The whole thing? Yes.

MEMBER HALNON: -- given the importance of it downstream?

MR. O'DRISCOLL: Yes. Yes, so let me -- the answer is yes. We had a preliminary cost-benefit analysis. It was baked in. It was part of -- integral to, rather, the reg basis. So in other words, every -- if you go back to the old reg basis of this rule, you can see what the staff figured. And we got comments from the public saying no, no, no, this is low. This is why. That's very helpful to the staff because we only know what we know. And if you're saying -- industry or others are saying no, no, it really costs this much, you need -- we consider that, those questions. So it's part of the rule as far as the whole thing goes out for public comment. Does that help?

MEMBER HALNON: Yes, I guess is it correct

to say that that second bullet there, the preliminary cost-benefit analysis, the one that's issued for public comment, already had industry input?

MR. O'DRISCOLL: Well, we had to have some input from what we got from the regulatory basis.

MEMBER HALNON: Okay. So it does --

MR. O'DRISCOLL: Well then, so it goes out and industry inputs -- industry gets a chance during the proposed rule comment period to comment on the rule language, on the preamble, any attached documents, which include the reg analysis. That's all open for inspection by the public.

MEMBER HALNON: Okay. Is there any threshold that the cost-benefit analysis comes back and says do nothing from here on out?

MR. O'DRISCOLL: Yes. Well, we could change -- we're not committed right now at this point, so we're in -- let me try to explain the rulemaking process. So this goes out for public comment hopefully over the late summer, right? Our job is to develop the final rule after that. So the final rule is based on what we said in the proposed rule, but if it's a logical outgrowth from that -- what we said in that proposed rule, it's something that hasn't been -- it's basically not a de novo, brand new issue, if it's

something that we've already talked about in some way, in some fashion; we asked the question, we made a statement and it is -- it could be construed as a logical outgrowth and that could make it change in the final rule.

We still have -- we are supposed to take public comments in the propose rule into account when we issue the final rule. So this is not the final say, this rule, when it goes out in -- hopefully in the summer. Does that help?

MEMBER HALNON: Okay. But before you go further, the question was at what point is that preliminary cost-benefit analysis -- does it have the ability to say it's not cost-beneficial if we're stopped?

MR. O'DRISCOLL: Yes. If we find it's not cost-beneficial, why are we doing it? I mean, there's other reasons. It's not all based on cost-benefit. And I don't want to digress.

MEMBER HALNON: That's the point is that --

MR. O'DRISCOLL: Right, but there -- yes, it's not --

MEMBER HALNON: -- is it a go/no go on the cost-benefit?

MR. O'DRISCOLL: No. No, that's not -- I mean we take into account cost, but if there's other reasons: adequate protection, or substantial increase in safety, or other reasons, something may not be cost-beneficial, but we'll do it because it makes sense or we're trying to achieve the overall goal of the rule, which is alignment. So there's things in this rule -- I'll tell you now, this rule is overall well -- very much so cost-beneficial, but there's elements in it that are not and there's elements that are.

But all of these things that we're -- that's in this rule achieve the goal that we were directed to -- or at least in my opinion, to answer: align parts 50 and 52; encourage the use of PRA in design; severe accidents in design, all that stuff. So we'll get to that. And I have a little bit of a blurb on each topical area, whether it was cost-beneficial or not, or how we calculated, which I hope helps.

MEMBER HALNON: Okay. Thanks, Jim.

MEMBER BALLINGER: This is Ron Ballinger. Is there stakeholder input on the cost-benefit analysis?

MR. O'DRISCOLL: The answer is yes.

MEMBER BLEY: Jim, this is Dennis Bley. I want to say something about cost-benefit and ask you a question about preamble. In that last discussion you had on cost-benefit, I think one thing that's important for us to recognize in the more general kind of cost-benefit analysis that many of us have been involved in all those extra things you talked about are actually benefits. In the formal cost-benefit analysis it's all dollars, so it's only the dollar cost in benefit. So the other things that would factor into a more general cost-benefit analysis are the things Jim talked about.

I'm wondering if changing from statements of consideration to preamble is more than just a name change. I'm thinking that before we had all our records on computers in the past it's been really hard at times for certain old rules to find the statements of consideration, but at least when legal issues come up or new issues arise, reviewing those can be very helpful in deciding what one needs to do.

Is it that the preamble now will be more formally kept track of or is it just a name change?

MR. O'DRISCOLL: It's just a name change. I mean what I understand is that every other regulatory agency uses the word preamble except for

the NRC. I remember rulemaking classes. They would always kind of -- these are external training classes. They would say you know I don't know why you guys use statements of consideration when everybody else uses preamble. So I think we're trying to become a little bit more uniform. But it doesn't -- in my -- at least what I understand is it is absolutely not changing the purpose of what that is in any way.

MEMBER BLEY: But somehow; and I guess it's with ADAMS, it's now for rules that come forward it's going to be easier to find the old preambles than it had been in the past. I think that's already built into the process.

MR. O'DRISCOLL: Right, and we also have a group that helps us, the Legal Research Center in NRC. They are essentially a bunch of folks that are ready to jump to help staff find this kind of information. It is a challenge, but they know where a lot of this old, old stuff lives and they're able to do some searches that are kind of high-powered and more outside of our tech staff's ability. So we do have those folks there. They help us out.

MEMBER BLEY: Okay. Thanks. For members who haven't been deeply involved in this process before, one of the important things with the

statements of consideration or the preamble is when issues come up of what does this rule actually mean, that's often the place where you go to find out what the Commissioners really were trying to do with the rule. So they're very helpful at times.

CHAIR BIER: Yes, again as kind of an informal layperson commented, it sounds like what the court talks about of legislative intent, right. Except that the legislature never write down their legislative intent, so we have to guess. Whereas here somebody actually writes down what the intent is so you can go back later. So that sounds very helpful.

MEMBER BROWN: This is Charlie Brown. Can I ask one thing on thought process?

MR. O'DRISCOLL: Sure.

MEMBER BROWN: I've been through this before on statements of consideration and I guess I've always viewed those -- the rule should be able to stand on its own. You go read the rule. Industry should read the rule. They should be able to figure out what to do to meet that rule. If they have to paw back through statements of consideration, that's not a good idea.

I understand the intent is a good point; forgetting who -- Vicki said that or somebody said

that. That part I can understand quite well, but the rule should stand on its own. You shouldn't have to search back through statements of consideration to try to figure out is that what they really meant? It's just a thought that when -- when this rule is finally finalized the rule really should stand on its own. That's the only point I was trying to make.

MR. O'DRISCOLL: That's absolutely correct.

MEMBER BROWN: Thank you.

MR. O'DRISCOLL: Yes, that's perfect.

Any other questions or comments?

CHAIR REMPE: Dennis, your hand's up but I think you just forgot to put it down, right?

CHAIR BIER: Okay. I think we can move on. Thanks.

MR. O'DRISCOLL: Okay. All right. So let me show you a little bit more about the preamble here. So this is the actual preamble; I hope you can see this, for this rule. So I'll try to provide an overview of the content and scope of the proposed rule. So here's the table of contents in the preliminary draft proposed rule preamble for this rule.

So there's 61 items discussed in 11

general technical areas in the scope of the proposed rule, and that's about -- that's up from the 50 items we had in the scope of the regulatory basis that was issued for public comment as briefed at the last time we met, which is last March.

The proposed rule preamble discusses how the staff dispositioned each item that the staff communicated in the regulatory basis. So in other words, we wrote this thing to have no gap or a complete story so that you'll know what we did. Using this rule you'll be able to know how we adjudicated all of those items in the proposed rule phase.

Any questions on that?

So I'm going to be referring to these sections, like III.A. You might see them in parentheses. That's what I'm talking about. This is the preamble, Section III.A. These are your technical areas. This is really the meat of the entire rule right here.

And this stuff here is some focused area items. Some of it's boilerplate; other it is not, but basically you're -- where you want to understand the thinking you go through this Section III. And then after availability of contents you actually get what they call -- we call issuing instructions, which is

actually the rule language. So that's the whole proposed rule.

MEMBER HALNON: Hey, Jim, this is Greg Halnon. To Dennis' point earlier, will this have a report number or something that's searchable, or how is this going to be retrievable?

MR. O'DRISCOLL: Well, so this -- well, let me see. There's a couple ways I can answer that. First off, this is -- actually the draft that's available to the ACRS is available publicly in ADAMS. I mentioned the ML number of this preliminary draft. And again as we said before, we're still reviewing the thing in staff. We could change it. But if you want to -- this actual snapshot of the rule is available now for --

MEMBER HALNON: Yes, well, I got that. I'm talking about 10 years from now.

MR. O'DRISCOLL: Ten years from now this is -- there's a *Federal Register* notice. The way rulemaking works is we cite -- we note -- everything that goes out has got a -- a final rule, has got a *Federal Register* notice citation. And that's the Office of *Federal Register* keeps track of that.

MEMBER HALNON: There would be a footnote in the rule -- I mean on the --

MR. O'DRISCOLL: Yes.

MEMBER HALNON: -- 10 CFR whatever?

MR. O'DRISCOLL: Yes.

MEMBER HALNON: There will be a footnote saying what *Federal Register* number it is?

MR. O'DRISCOLL: Yes, sir.

MEMBER HALNON: Okay. All right. Thanks.

MR. O'DRISCOLL: Okay. All right. Any other questions?

I'll move onto slide 14. So I just mentioned this stuff. So many of the items that was in the reg basis screened into the proposed rule. And the staff added a few more based on public and staff feedback. So of those items 18 of them will also require the staff to develop guidance updates for notice and comment with the proposed rule. There are no new guidance documents proposed. So we're not creating something brand new here, just changes.

So we identified 14 different guidance documents that will be issued for comment with the proposed rule, specifically 8 Regulatory Guides and six revised sections of NUREG-0800, which is a Standard Review Plan. The staff also identified the need to update one technical report with this rulemaking, a NUREG.

So this rule also spans a huge -- or not huge -- a large number of CFR parts besides Part 50 and 52 in order to make conforming changes. So those parts are Parts 2, 21, 26, 51, 55, 70, and 73.

So I can just go real briefly for the record of what those eight guidance documents are. I'll just say what they are.

Regulatory Guidance is Draft Guide 1384, which is Nuclear Power Plant Simulation Facilities for Use in Operator Training License Examinations, and that is Revision -- would be Revision 5 to the existing Regulatory Guide 1.149.

Draft Guide 1394, which is An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis. And that would be Revision 4 to the existing Reg Guide 1.174.

Draft Guide 1395, which is An Approach to Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities. And that would be Revision 3 to existing Reg Guide 1.200.

Draft Guide 1398, which is Guidance for Implementing 10 CFR 50.59 Changes, Tests, and Experiments. And that would be Revision 2 to existing

Reg Guide 1.187.

Draft 1399, Applications for Nuclear Power Plants, which would be Revision 2 to existing Reg Guide 1.206.

Draft Guide 4031, which is General Site Suitability Criteria for Nuclear Power Stations. And that would be Revision 4 to Reg Guide 4.7.

Draft Guide 5067, which is Access Authorization Programs for Nuclear Plants, which would be Revision 3 to existing Reg Guide 5.66.

And finally, Draft Guide 5069, Fitness for Duty Programs for New Nuclear Power Plant Construction Sites. And that would be Revision 1 to Reg Guide 5.84. So those are the eight guides.

And for the SRP sections I will tell you what those are. Section 1.0, which is Introduction to Interfaces. And that would be Revision 3 to the existing Section 1.0.

Section 13.3, which is Emergency Planning. And that would be Revision 4 to the existing Section 13.3.

Section 13.6.1, Physical Security. And that would be Revision 3 to the existing Section 13.6.1.

Section 13.6.4, which is Access

Authorization Operational Program. Would be Revision 1 to existing Section 13.6.4.

And as I mentioned before, Section 19.0, Probabilistic Risk Assessments and Severe Accident Evaluation for New Reactors, which would be Revision 4 to the existing Section 19.0.

Section 19.1, Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities would be Revision 4 to the existing Section 19.1.

And that one technical report is NUREG-1021, which is Operator Licensing Examination Standards for Power Reactors. And that would be Revision 13 to the existing NUREG-1021.

So I hope you guys took good notes. No, there will be a transcript.

CHAIR REMPE: Thank you for that.

MR. O'DRISCOLL: So I will --

CHAIR BIER: That's exactly what I wrote down in my notes. There will be a transcript.

MR. O'DRISCOLL: All right. So we're on slide 15. So the scope includes six items in four technical areas meant to better align Part 50 and 52. The FRN, which is the *Federal Register* notice -- I'll be calling it an FRN from time to time -- includes a

detailed discussion of these items in the preamble Sections III.A through III.D of the proposed rule. And they're basically the -- well, they are -- they're the same areas that we identified in the originating SECY.

Next slide. All right. So here's all the fun stuff. So this is the lessons learned from recent experience. The scope also includes 54 lessons learned items. The staff organized these in general areas of operator licensing, physical security, fitness for duty, emergency planning, parts 52 licensing process, environmental topics, a topical applicability of other processes to Part 52 process, and finally miscellaneous topics. And those numbers in parentheses show the number of items in each area.

There is one more item in the scope that is not on this slide that would be part of the licensing process. So if you do my math, you'll see it's actually 22 items. The reason why it's 21 is for that item we are stating in the proposed rule that we want to stay status quo with an item. I'll go into detail in a few minutes, but basically during the course of development of the proposed rule we decided we didn't want to make any changes. So again we want to make sure there's a complete story of what we said

in the reg basis and what we're saying in the proposed rule. That's why we have to talk about it.

CHAIR REMPE: So, Jim, is this a good place to remind you of my comment earlier about the SRM on physical security and that ACRS does have some -- the Commission asks ACRS to look into some specific technical issues? So could you give us a highlight of what the physical security changes are since -- unless we go to the back where you have the actual rule language there's no other slides discussing what you've done.

MR. O'DRISCOLL: Sure. I can do that as a really kind of short highlight. Give me a second.

Well, one thing we do have, too -- and again I'm not sure if we're going to have this meeting later on in the month, but we do have the opportunity to come back to you guys on the 18th. Let me just see if I can bring it up. I can --

CHAIR REMPE: Again, I'm just asking for a high-level overview.

MR. O'DRISCOLL: Got you.

CHAIR REMPE: And even if we didn't have the meeting on the 18th, you could bring it up to us during the Full Committee meeting. Just in your words what are the major changes that you made?

MR. O'DRISCOLL: Sure. Sure.

CHAIR REMPE: And you've discussed them in public meetings.

MR. O'DRISCOLL: So yes. So there's really two main areas here in physical security: Well, we have first off -- well, in Section F.1 and F.2 we cover both physical security and fitness for duty. So in physical security we're talking about two areas, which is the protection of un-irradiated fuel and implementation requirements of Section 73.55 and 73.66. And then another topic on requirements for special nuclear material of moderate or low strategic significance.

So, well, those --

CHAIR REMPE: I'm not so interested; maybe other members are, in fitness for duty changes. I am curious though when you talk about protection of un-irradiated fuel because again that might affect source terms. How do you treat somebody who brings a mobile reactor to the site? It's a loaded core and yet it's not been irradiated. Does it need more protection or do you leave it in the less protection area?

MR. O'DRISCOLL: So I can assure you that I don't have the answer to that.

(Laughter.)

CHAIR REMPE: That's a great answer. And just get back to us, okay?

MR. O'DRISCOLL: All right. Sorry. But we do have folks -- we heard the question and we can start thinking about that and reengage with you guys.

CHAIR REMPE: That's fine. I see a hand up. I don't know. I'd have to stand. The way this is set up I can't tell who it is.

MR. O'DRISCOLL: Yes.

MR. NGUYEN: Howard, you can speak.

MR. BENOWITZ: I'm trying. Thank you. Howard Benowitz, NRC's Office of the General Counsel. The two issues that -- physical security. One is the protection of Category 2 and 3 materials, special nuclear material. Right now our current regulations in Part 70 and 73 apply to Part 70 and 52 licensees. There's an exception for Part 50 licensees operating nuclear power -- excuse me, Part 50 nuclear power reactor licensees, talking about the power reactor licensees.

And in this proposed rule the staff would remove that exception so that -- it is part of the alignment aspect of this rule to align the Part -- the physical security requirements for Part 50 and 52, power reactor licensees, so that when one of those

licensees brings a Category 2 or 3 SNM, quantity of SNM onto its -- within a Zone of Controlled Area but outside the protected area, they would protect that material under the same physical security requirements, whether you're a Part 50 or 52 licensee. Today the Part 50 licensee does not have to protect that material like the Part 52 licensee does. So we want to align those requirements. That's one change.

The second one is it's a timing provision. Right now under 73.55 when a licensee has special nuclear material within a protected area, there's some ambiguity, depending on who you ask -- so we're clarifying it to make it as clear as possible that a licensee, when they bring the material into the protected area they have to protect that material either under the current -- 73.67 or 73.55. In 73.55 though they must protect it under 73.55 when the fuel is -- the initial load of that fuel into the reactor. That's sort of the latest point at which the licensee could protect the material under 73.67.

And just to give you an understanding of why that's important, the requirements under 73.55 are the much more stringent than the requirements under 73.67. So once the material is in the protected area and there's an initial fuel load, then the licensee is

required to have a physical security program under 73.55, the most stringent requirements for the nuclear power reactor licensee.

So the second change of the two physical security changes -- it's really a timing change, proposed change. When would the licensee's 73.55 requirements be required? When would the physical security program be required to comply with 73.55? And under the proposed rule no later than when that initial fuel is loaded into the reactor. So in a nutshell those are the two physical security proposals.

CHAIR REMPE: Okay. Well, thank you for that clarification. I am still curious though about my question that I asked Jim earlier. Because there's an emphasis on when you load the fuel in the reactor on how things are implemented, and I would be curious how the staff intends to address that with a mobile reactor.

So whenever you get a chance, let me know. Okay, Jim?

MR. O'DRISCOLL: Okay.

All right. Any other questions on the scope here of the lessons learned stuff?

CHAIR REMPE: Actually I guess I did have

one other. What about high-assay, low-enriched uranium? It seemed like -- that some of the requirements might affect it --

MR. O'DRISCOLL: So --

CHAIR REMPE: And I'm guessing from what you told -- oh, go ahead and answer.

MR. O'DRISCOLL: Sorry. I kind of have a little extra cheat here. I'm also working on a rulemaking plan to ensure that future enriched fuel -- we have the right regulatory structure in place to license that stuff. So we are thinking along those lines, but that's a separate rulemaking activity that we are proposing. We're at the rulemaking plan phase. In other words, we're trying to obtain Commission approval to proceed with the efforts to develop the rule, or actually the reg basis for that. But we are thinking along the lines of the need to ensure that our regulations will support some of this HALEU stuff. Does that help?

CHAIR REMPE: Yes. So none of the Part 50/52 changes will affect HALEU is what you're telling me, right?

MR. O'DRISCOLL: That is correct. That is correct.

CHAIR REMPE: Okay. That helps. Thank

you.

MR. O'DRISCOLL: Sure.

All right. So this is a good one. So let's talk about this. So relationship to non-LWRs. So we're on slide 17. So we asked a question in the regulatory basis basically on what should we -- in addition to what we're doing what should we do, if anything, to address non-LWRs? And we determined that based on public comments that the staff needed to add a cross-cutting item to the scope, and that is -- we call it the relationship of this rulemaking activity to advanced reactors. And the FRN covers this topic in detail in Section 2.1.2.

Basically when we say covers it, it explains what the relationship is of this rulemaking to advanced reactors. So it basically explains how the reader should -- reader of this rule should put the rulemaking activity in context with other NRC licensing process efforts and rulemakings that relate to non-light water reactor technology.

So the comment recommended -- commenter recommended that the NRC perform a comprehensive review of Part 50 and 52 to evaluate such -- sorry, each provision of the regulations with respect to the applicability to non-light water reactor technology.

So the staff partially agreed with that comment, however the effort to conduct such a review would be outside the scope of the Commission's direction on this activity. However, the staff agreed to evaluate the applicability to non-LWRs on those areas where we are already changing the regulations to ensure the recommended rule language is as technology-neutral as possible. Does that help, I hope, try to explain that a little bit? Any questions on that?

CHAIR REMPE: It helps me. And actually going through the guidance situation really helped earlier today, so thank you.

MR. O'DRISCOLL: Sure.

All right. I'll move onto the next slide. So these are topics of interest. Basically what that means it's our understanding or my understanding of what you folks would -- are interested in talking about. So basically what I'm trying to say is that the following slide discussion is not the whole scope of the rule. So I picked what I believe is the most important stuff and put it in priority order for discussion to get the best kind of discussion as possible. And so we're going to go through these items.

CHAIR BIER: So, Jim, at some point this

morning we are probably going to need to take a break, and I'm thinking now might be the time before you delve into a long topic. I know we're probably behind where you thought you would be, but --

MR. O'DRISCOLL: No, I am all for that.

CHAIR BIER: Okay. Shall we say 10 minutes?

MR. O'DRISCOLL: Okay.

PARTICIPANT: Fifteen?

CHAIR BIER: Fifteen? Fifteen. There's a vote for 15.

PARTICIPANT: I got to let my dog out.

CHAIR BIER: Oh, that's fair enough. Okay. Fifteen. All right. So we will all be back here shortly.

(Whereupon, the above-entitled matter went off the record at 10:01 a.m. and resumed at 10:17 a.m.)

CHAIR BIER: Okay, I think we are back in session here, and one or two members may be a little slow getting back, but we should probably go ahead, and move forward Jim, if you're ready.

MR. O'DRISCOLL: Sure. So, just to recap where we broke, the rest of this presentation is going to be on specific topics of interest, and again, these

are topics that the staff believes HRS is interested in. So, it's broken up in these areas, and we have a little guide here for what slides each one is on, and with that I'm going to proceed to the next slide, which is the licensing process.

So, the proposed rule addresses several different areas that relate to lessons learned from the Part 52 licensing process, and these are design certification renewal discussed in proposed rule section III.H.1. The Part 52 change process, which is discussed in section III.H.2 of the proposed rule FRA. Design scope and standardization discussed in section III.H.3. References to standard design approvals discussed in section III.H.4.

And finally, the content of new reactor applications discussed in section III.H.5. All right, next slide, I am now on slide 20 for folks that are just on the phone. So, this is a DC renewal topic. The proposed rule removes the 15 year duration of the standard design certification along with the associated renewal requirements. The effected regulations are 10 CFR 50.55, duration of certification, where the staff proposed to retain the provision to allow an applicant to reference a DC application under review.

And 10 CFR 52.57, application for renewal, that's also 10 CFR 52.59, criteria for renewal, and 10 CFR 52.61, duration of renewal. All those will remove, and reserve those sections. So, the proposed ruling, which for this we put it on a backup slide, slides 73, and 74, and I can jump to those if need be, but the language for these changes are in slides 73, and 74.

So, why did we do this? The staff found that renewing a design certification has little value if there is no license applicant who references the design prior to design certification renewal. Although the proposed change would eliminate the need for staff to use a renewal application, the proposed changes retain the issue of finality requirements of the design certification.

These requirements allow the NRC to modify, rescind, or impose new requirements on the certified information if necessary for safety. Thus, the NRC retains the flexibility to address significant issues that affect the DC when required. DC vendors would continue to be subject to the DC information maintenance requirements indefinitely. The DC vendor may seek recision of the DC by submitting a request to the NRC.

So, if it comes to it, you can rescind your certification, and then you won't have to worry about that information collection need. The NRC received seven public comments on the item as it was discussed in the regulatory basis. The FRN has a summary of the comments, and the staff response in response to these comments in section III.H.1. These comments were supportive, generally, of the staff's recommendation.

In addition to response to public comments, the staff agreed that like DCs, for similar reasons, the proposed rule should eliminate the duration, and renewal requirements for standard design approvals, and manufacturing licenses. The staff is now proposing to revise the rule language in sections 52.147, 52.173, 52.177, 52.179, and 52.181 to remove such requirements, and those you can see on slide 75 of the backup slides.

Also in consideration of a specific request for comment, the staff decided to propose to remove the expired DC appendices, B for system 80 plus, and C for the AP 600 from the CFR. So, that's in slide 76, although the response to the public of that question that we asked, the public supported retaining the expired DC information. When we

evaluated the rule, and what we have to do to retain it, or if we should update it, or not, we decided that it would not be completely correct to -- it would be more correct to remove the expired information from the CFR.

There's no need to have expired information in the CFR, all that work is still out there, it's in ADAMS, but it doesn't need to be in the CFR. Does anybody have questions on DC Renewal?

CHAIR REMPE: So, it's not really on DC renewal, it's more related to the manufacturing license, and I didn't see any other place to bring this up in this slide, so I'm going to bring it up here. But could you clarify a little bit about what's going on about the mandatory hearings, the changes in the requirements for a mandatory hearing for the manufacturing license?

MR. O'DRISCOLL: I don't --

CHAIR REMPE: Isn't there a change, and it's reducing the need for a mandatory hearing? Or maybe I misread something, there was a lot of material we had to read, and I might have missed something.

MR. O'DRISCOLL: Yeah, so if this was a Part 2 change, are you referring to some of the Part 2 changes that we have?

CHAIR REMPE: It was related to, I think Part 52, I don't think it was a 50 thing, and it was something about there's not -- I guess I may have misunderstood it, but it looked like the requirements for a mandatory hearing for manufacturing licenses were changing. But maybe I misunderstood it, and I'll go back, and look at my references, and see if I can figure it out. But it probably won't be until the 18th meeting before I can figure it out, or the committee meeting.

MR. O'DRISCOLL: We do have an item on clarifications for what can be discussed in a hearing in --

CHAIR REMPE: For manufacturing licenses?

MR. O'DRISCOLL: Well no, I don't recall that, but it basically has to do with ITAAC, and the scope of ITAAC hearings, to basically be clear that those hearings are limited to the issue of the ITAAC itself, and not everything. So, we made some clarifications there, I'm not sure if that's related.

CHAIR REMPE: Let me go back, I didn't fully understand what I was reading, so I'll go back, and try, and understand better. But nothing jogs your mind in that topic, okay.

MR. O'DRISCOLL: Yeah, but that doesn't

mean that -- all right, I'll move on. Does anybody else have any questions about this issue of DC renewals? All right, I'll move on. So, we're on slide 21. So, the proposed rule contains six rule making items related to various change processes in Part 52. These items are changes to allow combined license applicants to make changes to the plant specific design control document related to the organization, and section numbering without prior NRC approval.

Inclusion of 10 CFR 50.59C provisions in the Part 52 change process, but these are specifically the addition of the provision that the change process in the DC appendix applies unless a more specific change process governs the change. And that's basically making the change process more parallel in 50.59, and the change process in Part 52. And then we're also making changes that reduce the burden to implement a change when the plant is being constructed.

And then we are adding a couple of new processes, one is the addition of a new process that will allow an applicant to request variances from a referenced standard design approval. We basically needed this because it really became important when we

decided to remove the duration of SDAs, there's going to be more need to proceed, there's more need to request a change.

So, we needed to create a process to support that. We also created a new process to allow a standard design approval holder to amend a standard design approval to basically make a generic type change. The addition of provisions that permit a COL applicant to reference SDAs, and manufacturing licenses that are currently under review. So, basically just like we made the allowance for DC under review, we're also going to allow that for an SDA, and manufacturing license that are under review.

MR. BLEY: Jim?

MR. O'DRISCOLL: Yeah?

MR. BLEY: The one that's a designer, you make a change to their existing rule, how is that setup to reflect -- supposing we already have half a dozen of these plants built, and then make a change to the design cert, how does that reflect on the ones that are already out there?

MR. O'DRISCOLL: So, that's a -- I understand that question has to do with standardization, and we do talk about this a little bit later, and I will say that we are also making a

change to the change process to remove the need to justify the change on the impact to standardization. So, let me see if I can explain this a little bit clearer. So, we're not -- we still uphold the commission's policy on standardization.

Part 52 is still a standardization rule, it is designed from the get go to make sure plants are more standard. However, we found out as a lesson learned that we got little to no value out of the response requirement that we had in regulations in the change process for the applicants to justify, and the NRC to review the impact of a proposed change on standardization.

So, what we're doing is we're eliminating that need to discuss that issue for a change. So, the answer is that we don't believe that we're going to have much of an impact on standardization to the degree that we think we're going to be reducing, or eliminating the goal of standardization, which is to make the plants more standard. I mean we're certainly -- these plants are going to be very much the same.

They're not going to be identical, but they're going to be very much the same, unlike the old plants, or the old process where we had a very wide variety of design, and every plant was quite

different.

MR. BLEY: I'd like to challenge your thinking on that just a little bit. Up until now, we've had designs that were certified, and quite a bit later somebody actually tried to build one, and when they tried, they had to make substantial changes to the design cert. But with some of these small reactors, the rumors are some will come in, and get a Part 50, and then come over, and get a Part 52 after they've had some experience with it.

And if that actually comes to pass, Part 52 might operate in the area of standardization, like it was expected to do originally, and it might become more important in the next 5 to 15 years.

MR. O'DRISCOLL: Okay, anybody on the call from the staff that would like to respond, or provide input on that? Please raise your hand. Omid?

MR. TABATABAI: Yes, sorry, good morning, this is Omid Tabatabai. I think I just wanted to point out that there are two aspects to that standardization question. One is that the NRC is still maintaining standardization as the licensing goal for Part 52. The item that this rule making is touching on is only when an app, and license request an exemption, and as part of that request, they don't

have to consider, or justify how that extension request would impact the standardization.

I just wanted to make it clear that it is still the NRC's policy with the standardization of Part 52 as a goal.

MR. BLEY: So, this is really affecting the people who have come in for a COL, to actually build their design, and they want to make a change, they don't have to justify its impact on standardization.

MR. TABATABAI: Yes, it's actually depending -- because it has no impact on safety -- if it's not a safety issue, has minimal impact on safety, then the standardization should not be an unnecessary burden on the applicant, that's the idea.

MR. BLEY: You've got me -- well if it has minimal impact on safety, what's it even doing in here? But go ahead.

MR. O'DRISCOLL: Okay, all right. The one thing I want to talk about a little bit more is remember I mentioned that there were 61 items in the FRN, and there's only 60 that we're doing rule making. So, there was another item here in the change process area. That was an item, if you recall from the reg basis, we wanted to move the portions of the Tier 2

change process from the DC appendices to the Part 52 subpart B.

And so we were working on that, and we decided, based on what we would have to do with the regulations, the resulting regulation would be more complicated. So, we decided not to do that. So, the proposed rule explained why we were no longer recommending rule making to move that 10 CFR 50.59 change process from the Part 52 appendices to the Part 52 subpart B. All right, I'll move --

CHAIR REMPE: Jim, before you leave the slide, including the 50.59 provisions in the Part 52 change process, could you talk about some of the comments you received from the public, and the staff's disposition?

MR. O'DRISCOLL: Yes, I'm going to cover that in slide 23.

CHAIR REMPE: Okay, I'll be patient.

MR. O'DRISCOLL: Okay, any other questions before I roll into this?

MEMBER BROWN: Yes, this is Charlie Brown, part of that transition on slide 23, we went through considerable gyrations in Part 50 last year with the NEI 96-07, and reg 1.187, and there were several rounds to get that resolved. Does this, providing

these provisions, does that carry all that stuff forward into Part 52 also? It goes along with Joy's question, you can answer then, it's just the thought process, I wanted to make sure we hit on that.

MR. O'DRISCOLL: Okay.

MEMBER BROWN: Because you've also proposed changes to Part 50.59C, you've added nine, and ten under there, which when I read it, looks like it considerably expands, or lessens the likelihood of being able to make changes without an LAR. So, we need to talk about that, that's all.

MR. O'DRISCOLL: Right, and there's a couple of aspects about 50.59 here. We touch it in two areas in this rule. We talk about the change process here, but we also talk about it in severe accidents. So, some of these things, we'll be talking about 50.59 two times in this presentation.

MEMBER BROWN: Okay, thank you.

MR. O'DRISCOLL: So, yeah, once we're done with slide 23, we'll make sure that we check with you to make sure that we've got your answer. Okay, so I'm going to move on to slide 22. So, this one is pretty straight forward. We're on slide 22 for folks that are following on the phone. The proposed rule would change DC appendices A, D, E, and F, and any other DC

appendix in effect when the final rule is published.

So, specifically the proposed rule would amend section IV.A.2 of each appendix to remove the requirement for an applicant that references the appendix to use the same organization, and numbering in its plant specific DCD that was used in the referenced appendix. And this would -- purposefully this is to reduce unnecessary burden on the NRC, and the industry by eliminating the need for one type of an exemption.

This language, if you want to look at reference slide 77, that's where we talk, that's where you can see the change. Requirement is basically administrative in nature, and we think that it's not related to safety, it's certainly something that we can do. So, public comments on this were supportive, but requested the NRC to make further changes to allow licensees to change more Tier 1 information without prior NRC approval.

The NRC disagrees with these recommendations, and the staff is not proposing further changes to the regulations as a result of the comments. So, as far as cost goes, other than the rule making cost, which all of these incur a small incremental rule making cost, the staff assessed the

cost benefit of this item qualitatively. In other words, there was no dollar value assigned in our reg analysis.

Next slide, we're right here where we want to be, slide 23. The proposed rule would change the change process in each DC rule to include provisions similar to 10 CFR 50.59C. Specifically, the proposed rule had a provision in section VIII.B.5.A that would direct that if applicable regulations establish a more specific criteria, for example tech specs, I think tech specs is a good example, maybe 50.55A is another one.

That process supersedes the change process described in the DC rule in section VIII.B.5.B, and that change, you can see that on reference slide 78 of this presentation. So, the purpose of this change is to better align the change process between Part 50, and 52, because those provisions are already in the Part 50 change process. So, similar to the previous item, public comments were supportive, but requested NRC to make further changes to allow licensees to change more Tier 1 information without prior NRC approval.

The NRC disagrees with that recommendation, and the staff is not proposing further

changes to the regulations as a result of the comment. So, again, other than rule making costs, we assessed the cost qualitatively on this one. So, we're now on slide 23, and I'd like us to reapproach the question.

CHAIR REMPE: Sure, I looked at the comment from NEI, and it seems like they had a lot of detailed background where they were citing some examples, it seemed to be from Vogtle as I recall. Could you go through some of their examples, and why the staff just didn't think it was -- I mean I got your point, that it would be better if they had changed things from being Tier 1, but you just didn't -- could you cite some of the examples that they were so concerned about, and why they pushed so hard for it?

MR. O'DRISCOLL: So, I don't recall offhand in the regulatory -- in the preamble, if we cited their examples, or not in our response. But I'd like to see if somebody from DNRL that's familiar with the Vogtle licensing amendments to chime in. Omid, do you want to take this one?

MR. TABATABAI: I can't in detail talk about that, no, I'm sorry, not at this time. Anyone else from the staff has a --

CHAIR REMPE: There's someone with a hand

up, it went by too quickly. There it is.

MR. O'DRISCOLL: Hey Chandu, go ahead.

MR. PATEL: This is Chandu Patel, okay let me give you background. So, I have been on Vogtle licensing staff for about six years, and I have gone through almost like 130 amendments for Vogtle. So, I can tell you general background for -- yeah, there were some changes, of course industry is speaking on saying there are so many license amendments which are not necessary.

And they're claiming that changing Tier 1 process should be simplified, and to some extent, yes, there are some changes like there is an editorial change, according to existing regulations, it will require license amendment exemption. But the staff -- I mean I can personally tell you that yes, there are some examples like that, but they are few, and far in between.

Out of 140 -- well, I'll give you the exact number actually. Roughly around 160 amendments which I was involved in, there might be about four amendments which are related to editorial type of changes. So, it's not significant in amount. So, industry telling us that there are unnecessary changes, and we should simply void Tier 1, but the

staff position is no, these regulations will establish with the commission's guidance that we should minimize the changes, particularly in the Tier 1 process.

So, there are not really so many examples which I think are unnecessary. Yes, some of the editorial type, those significant type of changes could be simplified, but that would require whole changes in the regulations. And that will be an expensive project. So, there is the one, the information -- the statement we are making is this is only one DCD we are talking about, namely AP-1000.

We do not have extensive experience with this type of thing, so it would be premature to change the whole process based on only the Vogtle. So, that's basically yeah, we are saying it should not be accepted at this time for changing the Tier 1.

MR. O'DRISCOLL: Thanks Chandu. Does anybody have a reply, or another comment? It looks like Chandu -- is there anybody else whose hand is up, or has a question on this?

MEMBER BROWN: Yes, where I asked about a few minutes ago, Charlie Brown again.

MR. O'DRISCOLL: Hey Charlie. So, can you repeat the question just to be sure we're all on the same page? I'm sorry.

MEMBER BROWN: Let me do these two things first. C4 in 50.59 is a single sentence which says the provisions of 50.59 do not apply to changes in the facility, or procedures when the applicable regulations establish more specific criteria for accomplishing such changes.

MR. O'DRISCOLL: Yes.

MEMBER BROWN: That's what you're going to incorporate in 52, is that correct?

MR. O'DRISCOLL: Yes, so let me see if I can just really quickly keep everybody on the same page.

MEMBER BROWN: That's question one.

MR. O'DRISCOLL: All right, so this is the change that we're proposing that is related to 50.59, and this item that we're talking about right now.

MEMBER BROWN: That's B5, or 7, is that the same B5 that you --

MR. O'DRISCOLL: Yeah, that's VIII.B.5, and each serial number, this is every DC appendix will have this added change. Every effective appendix.

MEMBER BROWN: I'm going to slide 78 right now so I can read it. Or, I thought I could read it.

MR. O'DRISCOLL: So, I think the answer is yes. I think you've read it. See, in red is the new

text.

MEMBER BROWN: Yes, it says the provisions of B5, which is not shown on the page.

MR. O'DRISCOLL: Right, so it's basically B5B is again not shown on the page. It's B5B of the Tier 2 change process that we're talking about. So basically it lays out the change process, and saying well hold on, if you have a more specific change process, then these provisions don't apply, you need to go to that change process.

MEMBER BROWN: This 50.59 is more general, you're saying if there's a more specific change process that gives you details, you can follow that, and that's not in Part 52 right now?

MR. O'DRISCOLL: Right, it's not in Part 52, and this change would align this change process with Part 50 in that regard.

MEMBER BROWN: Okay. My second question was 50.59 -- where was I, my brain is recalibrating right now. The locator bit's just getting lost, and scattered around.

MR. O'DRISCOLL: Okay.

MEMBER BROWN: Last summer we went through a drill where NEI was trying to obtain some additional flexibility in the use of 50.59 for the application,

or redesign of systems for digital I&C upgrades. And after a couple rounds, we came to the document they prepared, which was NEI96-07 Appendix E I think. My question is does that get carried forward? Does Reg Guide 1.187, which approved the Appendix D in this application to make sure the flexibility, it was fought out viciously for almost a year, is going to be carried over into 52 as well? That's what I'm trying to figure out.

MR. O'DRISCOLL: Got you. So, I'm going to venture a flat statement. That's not in the scope right now. There's two changes to 50.59 we're talking about. This one we're talking about right here you're seeing, and also provision to ensure that ex-vessel severe accidents are addressed in the 50.59 change process for future applicants of Part 50.

MEMBER BROWN: That was question three by the way, I had another.

MR. O'DRISCOLL: So, I got you. So, the answer is we'll talk about question three maybe in the afternoon, or maybe later if that's okay.

MEMBER BROWN: That's fine.

MR. O'DRISCOLL: And question two, the answer is no. So --

MEMBER BROWN: I have a hard time

understanding why --

MR. O'DRISCOLL: So, let me -- now again, I may be wrong, but I believe the answer is no. And what we did, just to go back to how we scoped this rule, we asked staff in a very methodical way to provide those things that they feel are lessons learned, and needed to be made under this rule making activity. Aside from the four alignment items that we go into quite a detail in the actual SECY itself, and it took a year, but we got inputs from the staff, inputs from the industry.

And we cogitated, and debated on this, and we established the items, and we aligned on that scope. And once that scope was set, we, as a working group, established pretty tight control over that scope. We didn't want that to expand, or not. I don't even recall this coming up as a proposal. So, whether we didn't think it was something that we wanted to put in, or there was something else going on, I don't recall this issue ever coming up for discussion.

MR. BLEY: Before you go on, this is Dennis, Charlie, I forget the eventual resolution on that. Did they just upgrade the ISG, or how was it resolved? I forget.

MEMBER BROWN: It was resolved, NEI made some innovations, and NRC, we eventually got -- the staff agreed with the Appendix D based on -- I didn't go back, and read all the words, but they ended up approving Appendix D as NEI approved it with whatever -- remember, we had that one --

MR. BLEY: You can stop there, yeah, NEI changed Appendix D, and the staff went along with that.

MEMBER BROWN: Yeah, we said they would work together, and resolve it, and they did.

MR. BLEY: That's not in the rule, so I don't know why it wouldn't stand as is, and maybe somebody from the I&C staff is on the call, I didn't spot a name when I came in.

MEMBER BROWN: I'm like you Dennis, I can't understand why we'd preclude Part 52 people from being -- why do we want to create the problem that people have been fighting on getting your computer based I&C systems upgraded for years. And now, all of a sudden, we stick a cork in the bottle again, that just doesn't make sense to me.

MR. BLEY: Well maybe, is there somebody from I&C staff on the call? I didn't see if you're on.

MR. O'DRISCOLL: I don't believe so, but is there anybody from NRR DSS on this call, or DES?

MR. BLEY: Jim, maybe you can flag this for the next meeting, and maybe somebody from I&C can give us a comment on that.

MR. O'DRISCOLL: Will do.

MR. BLEY: While you're at this point, can you back up one slide to 77, which you referred us to earlier?

MR. O'DRISCOLL: Yeah.

MR. BLEY: I think you've got a typo on that slide, that's the only reason I'm asking.

MR. O'DRISCOLL: Okay, that's good, this is why we do this.

MR. BLEY: Comply with the following requirements, and there's only a little piece of a sentence dangling, this is different from the one I have.

MR. O'DRISCOLL: So, this is the thing on this. I noticed that if you don't have the Zoom quite setup, at least on the version that's in PowerPoint of this presentation, some of that red line doesn't show up as red line, it just looks like red text. I noticed that when I was putting these things together. So --

MR. BLEY: The way it's now written, there's nothing following the colon.

MEMBER BROWN: Exactly, I agree Dennis, I missed that.

MR. BLEY: On the first slide there was something following the colon, but it didn't make any sense.

MR. O'DRISCOLL: You probably were looking at maybe a PowerPoint, or something, and one thing too, is remember, this is all derivative information. Please -- we're going to be -- we also made the actual draft of the actual document. So, if you guys see anything in that draft that we missed, please let us know. That's what's actually in concurrence now, not these slides. So, again, thank you for that though.

MEMBER BROWN: Okay, before we leave, can we ensure, Dennis made the suggestion, I agree with him, that we ought to make sure that we get -- I don't want to see this I&C upgrade thing get put back in the boxes again, it's just too hard a fight, and we really ought to make sure that carries forward into Part 52. I don't know how you do that without messing up your information, but it's difficult for me to agree not to do that. I hate going through this fight over, and over again.

MR. O'DRISCOLL: Okay, so what I propose is I guess it's really Quynh's call, but I think we're writing these things down, and we have a follow up meeting that we may, or may not have, and I will make sure that we talk about this if we have another opportunity to this month.

MR. BLEY: Well we will, we'll certainly have a full committee meeting, so if there isn't a follow up, then do it at the full committee.

MR. O'DRISCOLL: Okay.

MEMBER BROWN: Yeah, that would be okay, but the only solution is to incorporate it. Still not -- I didn't want anybody to think I've lost my edge here, so I thought I'd throw that one in.

CHAIR REMPE: I'm thinking more about the response I got about the NEI concern, and they seemed pretty strong that they wanted to take it to the commission, and I'm just kind of wondering if they would agree with the response that we heard from the staff a few minutes ago about there were only a couple of editorial changes, and it seemed like they really were concerned on that.

I mean if you issue this for public comment in the language, do you think you're going to have them say yeah, we agree with the staff response,

or you think they're going to come back a bit stronger?

MR. O'DRISCOLL: Well, is that question for the staff, or is it --

CHAIR REMPE: I mean do you think you've reached concurrence with them, and they would agree with your characterization of --

MR. O'DRISCOLL: I don't know, but I do know that I do agree with you, that this is something that has been brought up numerous times, and we've been addressing this, and there are some letters I believe that we've written on this issue in the past, and we are trying to -- I think we're trying to be as clear as we can about our limits on what we feel we are able to do to make changes to certify information without prior NRC approval.

I mean I think it's something that -- you're talking about changing the rule, so I don't know what else to say.

MEMBER BROWN: Well, look at it this way, I mean I am constantly being addressed as to why aren't we making more progress? And the commission is interested in this, there has been feedback even in congressional letters if I remember correctly. Dennis, correct me if I'm wrong, I thought I've heard

a lot of noise about not being able to upgrade systems.

And the staff, and industry has complained about that, so there was considerable effort in Appendix D to 96.07, which was endorsed by Reg Guide 187 with some clarifications, and that was finally agreed to so they could do that. I wasn't -- I didn't think that it was restricted -- I mean we operated under the Part 50.59 corrections, and now you're carrying them forth into 52, and then you've added two more restrictions on the end which address quotes whatever it is, ex vessel severe accidents.

And now it's going to -- with probabilities, and increase to probabilities more than a little bit, blah, blah, blah, and pretty soon we're not going to be able to make any change. We might as well go back to vacuum tubes, or something like that. Excuse me for being cynical, but --

MR. O'DRISCOLL: So, one thing we did have from the beginning, from Part 52, if I can be so bold to bring it up, we had a concept of design acceptance criteria. We understood that things like I&C are not settled technology to the degree at which we would feel comfortable certifying the information, but there would likely be changes to -- and the state of the art

is rapidly changing.

And that was recognized back in 07', and we created DAC, and I'm just trying to see how this argument fits with the concept of DAC, and why is it so different? And if you think it's going to change, well you just provide some acceptance criteria for the SSC, and I believe I&C is still open door for DAC.

MEMBER BROWN: No, it's not, if you look at the certifications we've done, there have been specific chapter seven designs, and architectures that were approved. I mean you can stick peanut butter into the computer if you wanted to, and with the architecture, it would still work if peanut butter worked. That's a little bit more cynicism, but the technology moves as long as you get the architecture right, it almost makes no difference.

I speak with a little bit of -- there's always something you can argue about. So, it's not like this stuff is rampant, a microprocessor is a microprocessor, an operating system is an operating system. The stuff runs faster rather than slower now. So, it's not like we have something different, they all work the same. So, the architecture is well defined in at least three of the most recent design certifications.

And they're fixed, I mean it's computer based, and the technology can change, you just have a slightly different platform. Or you might have different software in some places because of the plant variation. So, it's not as fluid as everybody seems to make it. The design acceptance criteria are there, the DAC did not work well at all for I&C, somebody said just build one, and then we'll go test it. It doesn't make sense with too many piece parts, you have to have an architecture.

I think the committee has heard that from me at least 5 million times now the last 13 years. The principles of redundancy, independence, defense in depth, and processing, which is a deterministic, which people don't like to do, it always ends up being interrupt driven, but you can accommodate that if you design the architecture properly, as well as control of access, and you don't allow the outside world to talk to you.

In other words you have one way communications which are hardware based, and cannot be changed by software. Those five principles, you meet those, and you're pretty good to go. So, and that's why we're trying to support getting some flexibility so that the industry can move forward, and get rid of

some of these older systems, and upgrade to where they have better information coming into the operators, which they don't have.

The analog works, but the computer based stuff gives you a lot more accuracy, a lot more information, and you can do comparisons of information better. So, it's much better for overall plant operations.

MR. O'DRISCOLL: Can I ask, is that more of a Part 52 legacy plant thing, or is this more of a 52 issue? I mean, because it sounds like -- are we talking about digital I&C upgrades to existing design Part 50 plants, is that what this is --

MEMBER BROWN: Eventually, you may want to upgrade your systems in the Part 52 plants 20 years later.

MR. O'DRISCOLL: All right.

MEMBER BROWN: So, I mean the guidelines are the same, the framework is the same. Right now, the argument is for operating plants. Obviously in new designs, you get the thing defined in the design control document, or in whatever the licensed applications, and it moves forward. There's a -- you get too wrapped up in separating new plants from old plants. I'll quit right now. All I'm saying is you

want to carry it forward, you don't want to lose this as a process.

MR. O'DRISCOLL: Well, I think the action is on this, is that we've got the comments, we are going to take it to the right staff, and then follow up on this.

MEMBER BROWN: Okay, thank you. Dennis, did you have anything else to say, or?

MR. BLEY: No Charlie, I'll be honest.

MR. NGUYEN: Chandu has his hand up.

MEMBER BROWN: I'm done.

MR. O'DRISCOLL: Chandu, do you have a comment, or?

MR. PATEL: Yeah Jim, I just wanted to help. There was a very extensive license amendment for Vogtle on digital I&C, and it took a long, long time. So, yeah, you might want to look at that to address the question from this.

MEMBER BROWN: I actually wrote the letters on the approval of the design for Vogtle. So, their architecture worked out, we went back, and forth, it took us over a year to get their architecture settled. It got better with NuScale, and APR1400, they listened. I'm well aware of the detail we went through then.

MR. O'DRISCOLL: Okay, I'm just making a note here.

MEMBER BROWN: Okay, thank you.

MR. O'DRISCOLL: Sure. All right, any other questions on this change process slide? What we're doing with 50.59C? All right, so I'm going to move on to the next slide, 24. So, this is one on the approval process for changes while a plant is being constructed, slide 24. And you can see reference slide 79 for this change that we're making. But the proposed rule would make changes to make the process to review, and approve a change during construction more efficient.

It would align the departure process in Part 52 with practices in 10 CFR 50.59. Specifically the change would allow Part 52 licensees to continue construction while the change request is under review. The purpose of the change would be to eliminate construction delays related to NRC staff review of license amendment requests. The staff received one comment on this item that requested the NRC to remove, or explain a 45 day, and you'll see that in our rule, 45 day period for submission of the license amendment requests as stated in regulatory guide 1.237.

So, the NRC essentially disagrees that

there was no basis for that. So, we disagree with that, and the staff is not proposing any changes to that 45 day requirement. And then other than rule making costs, we assess this item qualitatively. Does anybody have questions on this, or want me to jump to the background slide on this?

MEMBER HALNON: Jim, this is Greg. So, they're proceeding at risk for construction.

MR. O'DRISCOLL: They are, that is correct.

MEMBER HALNON: And the risk is that either it's not approved, or conditions are put on it that would either change, or cause -- and I'm going to say this, cause something to need to be inspected that is now not inspectable. I guess the question is is what is the NRC doing outside of the review of the change, what is the NRC doing to ensure the result of the change review equals to the field work that needs to be adequately done as well. That wasn't real clear, I'm not sure exactly how to ask it.

MR. O'DRISCOLL: Yeah, so there's lots of different ways we ensure safety. We have inspectors, so there's inspectors involved during construction. So, some of this assurance is outside the realm of rule making. You can't regulate certain things.

Nobody is going to replace the value of an inspector. So, there's an element of that involved here for assurance.

MEMBER HALNON: I get that, but it's got to be something being done with the inspector knowing that they're inspecting something that is at risk.

MR. O'DRISCOLL: Well, the idea is that we're being no different than what we currently allow for changes in the Part 50.59 process, where it's basically this process of prior to implementing the change, it needs to be approved. So, what we're trying to say is go ahead, we don't want to cause delays in construction. Start making the change, but remember, like you said, this is at risk change.

So, if we eventually determine that this change is not appropriate, they are at risk to having to go in there with a jackhammer, or whatever to take it out.

MEMBER HALNON: Okay, so you don't feel like there would be undue influence to approve something when they come back, and say I know you want us to inspect that, but it's uninspectable now because we proceeded beyond the point where that could be inspected. Therefore it just seems like that would put some undue influence on the reviewers to try to

figure out maybe something else on the approval process.

Maybe some other condition. I know it's all going to be equal from a safety perspective, the reviewers will make sure that the review is right, and safe. But it just seems like when you say it's a qualitative cost benefit, I can probably come up with some scenarios where it's not cost benefit.

CHAIR BIER: Greg, maybe one way to frame what you're asking is that this is giving applicants, or licensees more flexibility, and it could be the rope where they hang themselves --

MEMBER HALNON: Well that, plus it puts the inspectors, and the reviewers in an awkward position if for some reason a tremendous amount of money has been spent, and they come back, like you say Jim, have to have a jackhammer to pull it out, that's a hard message. So, I guess the qualitative cost benefit, I can come up with narratives where it's not, but I understand where you're going.

And I don't disagree with it, but I think the guidance documents for the inspectors make sure that they know that they're inspecting something that's at risk. Is there any guidance that's going to go along with this, or is this just a --

MR. O'DRISCOLL: Well, there is a reg guide already out there, Reg Guide 1.237. What I understand is we made changes to that under a different activity, and we've evaluated the current version, and I don't believe we are making any changes that are needed for Reg Guide 1.237. Is there anybody from DNRL that would like to expand on that, or correct me?

MEMBER HALNON: The other question I guess, as you're searching for a friend, is there any tie to the inspection criteria that might be used? I guess it's ITAAC, or whatever field inspections are going on, is any of this rule language heading into the inspection procedures themselves?

MR. O'DRISCOLL: No, there is no inspection procedures that are required to be changed for this rule making.

MEMBER HALNON: Okay, we can move on. I understand what you're doing, I just think, like I said, the licensees need to proceed with tremendous caution when they do this.

MR. O'DRISCOLL: Okay. All right, any other questions on this item? All right, so we'll move onto the next one, slide 25. So, the proposed rule would add a new process to the COL, and SDA

subparts of Part 52 to govern how an application can take variances from one, or more referenced SDAs. The purpose of this change is to establish a clear regulatory process for an applicant to request, and the NRC to approve an approved variance from the SDA, or SDAs.

The regulations affected are 10 CFR 52.93, 10 CFR 52.145, and if you want to look at those, that's in slides 80, and 81, backup slides. The goal of this new process is to establish a variance process that would retain the SDA finality on the portion of the referenced SDA that the applicant incorporates without any changes. The staff added this item in response to several public comments on the regulatory basis, as I discussed earlier, or I mentioned earlier.

The public expressed concern that the removal of the SDA duration would, over time, increase the need for an applicant to take variances from a referenced SDA while preserving the benefit of finality on the portion of the referenced SDA incorporated without changes. The staff agreed with the comments, and is proposing this regulatory change in response. Other than rule making cost, it's sort of a speculative situation.

The staff assessed the cost benefit

qualitatively on this one as well. So, does anybody have questions on that?

MR. BLEY: Just a quick one Jim, this is Bley again. When you do a design cert, and then a COLA wants to make changes, I forget what we called that, but it's not called an exception, but it's something like that, and they have to show that it's okay. My memory of having gone through Part 52 on SDAs is there's not a whole lot of information there, and I kind of thought it reverted to the other side, the design cert for things that weren't fully worked out.

But I guess that's not true, is the approach going to be essentially the same as we use for a COLA under a design cert?

MR. O'DRISCOLL: I don't know if I can answer that, I'd rather pass that one off to somebody in DNRL. So, I think if Dennis --

MR. GALVIN: Jim, this is Dennis Galvin.

MR. O'DRISCOLL: There you are, go ahead, shoot.

MR. GALVIN: So, essentially there's a whole change process in part for the design certifications. And so this is really -- you just have to justify -- there was no change -- if you

reference an SDA, there was no way to take a variance from the SDA, it was not part of the regulations.

MR. BLEY: Yeah, the regulation there is pretty sparse, I agree with you.

MR. GALVIN: So, we've essentially said, the intent of the rule change is to allow a COL to take a variance, to change something in the SDA, and the intent is -- the rest of the SDA that's unimpacted by the change will not be -- will still have finality, right? So that's --

MR. BLEY: Which is very similar to what we do on a design cert COLA that takes a deviation from the design cert.

MR. GALVIN: I guess in that case there could be -- there might be a need for an exemption, but of course an SDA, there would be no need for an exemption, there's no Tier 1. So, I guess the fact that there's no Tier 1 could simplify the process for an SDA.

MR. BLEY: Where I'm kind of drifting to is this is one thing you've come up with, we've never gone through an SDA before, and there's probably going to be other places where we say oh my gosh, we didn't tell people what to do in this spot. I'm wondering why it wouldn't be a more prudent change to the SDA

part of Part 52 to say in areas that haven't been fully defined here, the procedures under the design cert rule apply, or something like that.

Because there's going to be other things turning up that we haven't thought of yet, because we haven't been through the process. Have you thought about that?

MR. GALVIN: I mean the only thing that really came up in the comments, really was being able to make a change to the SDA incorporated by reference, and also to change the SDA. I mean --

MR. BLEY: I understand that, but what I'm suggesting to you is because the SDA is not a process that's actually been used, that when we do it the first time, we're going to find other places where the lack of definition under the rule for SDA is somewhat incomplete, and the change that would refer such things over to the design cert side might cover everything comes up rather than having to do it by something new.

We're just saying no, you can't use the SDA here. A comment to think about, not something I expect an answer on. I know nobody's brought it up on anything else, because we haven't thought of it yet.

MR. GALVIN: Jim, we understand the

comment, I guess we can think about it.

CHAIR BIER: So, before we move on, I just want to issue a reminder that as people speak over Teams, or the phone line, they should introduce themselves, and state their name for the court reporter, and that applies to staff as well.

MR. O'DRISCOLL: So, Dennis, you are a licensing project manager in --

MR. GALVIN: Division of Operating Reactor Licensing supporting the rule making -- supporting the Division of New Reactor Licenses.

CHAIR BIER: It's Dennis Galvin.

CHAIR REMPE: I'm just wondering, is there a limit to how much of a change you can have in an SDA? For example, if you tried to double the power, is that still a change to an SDA?

MR. O'DRISCOLL: Dennis, I think you want to answer this one.

MR. GALVIN: Essentially, if it's a completely new design, then we'll tell them you're going to need to get a new SDA. It's the same concept as in design certification.

CHAIR REMPE: The AP-600 went to an AP-1000, would that have been a change to an SDA in your opinion, or is it a new submittal?

MR. GALVIN: I think a 60 percent up rate is going to be a new submittal.

CHAIR REMPE: Okay, that's good to know, thank you.

MR. GALVIN: This is Dennis Galvin again.

MR. O'DRISCOLL: And Dennis, just want to add that this did come up as a question during concurrence on this rule from the staff, and we've made some changes to the regs on these processes to assure that we have -- basically the issue is framed in the context of interface requirements. So, basically we're not expecting -- you can't operate the reactor piece of the SDA, and not operate the containment.

Because the containment was designed to a certain power level, so these are interface requirements, so we'll go into that a little bit later. I think it might be a little bit more clear.

CHAIR REMPE: Again, I guess to follow on my question earlier on, and Dr. Petti was also saying, we've got a new group of people submitting applications, and will the regulation, and the supporting guidance make it clear you can't do something like a 50, or 100 percent power up rate without doing a lot of other changes? And you'd be

better off just resubmitting the application.

MR. O'DRISCOLL: I would answer that the intent of the staff is to make it clearer, and we believe we are doing that. But again, that remains, we're going to have to -- this is a proposed rule, if we need more, we will add more as needed.

MR. GALVIN: This is Dennis Galvin, the design certification rule, and this rule doesn't try to pre-guess what criteria would make you submit a new application. There's going to have to be, obviously something that would be discussed with a potential applicant, and the NRC staff, what is a reasonable use of the change process.

MR. O'DRISCOLL: All right. Is there any other questions on the SDA approval -- I'm sorry, SDA variance process? All right, we'll move on to slide 26, which is sort of a similar topic. So, this is the generic standard design approval change process. So, the proposed rule would amend several NRC regulations to add a new process that would allow SDA holders to make generic changes to their SDAs, that is amend the SDA.

The purpose of this change is to establish clear regulatory process for request, and approval of generic changes for SDAs, which will no longer expire,

because we're taking away that date. The regulations affected are exiting 10 CFR Part 2.100, 2.101, and Part 52.3, and new sections 10 CFR 52.145E as in echo, and then if you want to look at this, it's in reference slides 82 to 85.

And so the goal of this process is to establish a change process that would retain the SDA's finality on unchanged portions of the SDA. The staff added this in response to public comments on the regulatory basis. The public expressed concern that removal of the SDA duration would increase the need to make, and review changes to the SDA while preserving the benefit of finality.

The staff agreed with the comments, and is proposing this regulatory change in response. Again, other than rule making costs, we assessed this qualitatively. So, does anybody have any questions on that?

CHAIR BIER: So, just to come back, this is Vicki Bier, this is back to an earlier comment, can you talk about what would happen in the situation where they're generic changes, but there are some plants already built, or approved with the previous version of the SDA?

MR. O'DRISCOLL: So, is your question

about finality concerns in the situation where an SDA is changed generically, and implications on the existing fleet, is that the question?

CHAIR BIER: Correct, yeah.

MR. O'DRISCOLL: Okay, so I'm not sure, does somebody in DNRL want to take this one?

MR. GALVIN: Jim, this is Dennis Galvin again. So, I think there's a slightly different change from Part 52, I mean from the design cert. Design cert is talking -- there's a process for the NRC to impose a standard change, that's not really what we're proposing here. This is really, it would probably be better to be titled as an amendment. Once the license is issued, the SDA now is subsumed.

We're proposing that the SDA would be subsumed into the FSAR. So, essentially it would not be impacted by an amendment to the SDA once the SDA is amended. So, for existing COL holders, it would not have an impact.

CHAIR BIER: Thanks, I think the FSAR is the part of the answer I was looking for.

MEMBER HALNON: So, this is Greg, in that perspective, if it did have a significant impact on the plant, you'd be doing a back date analysis on it, is that right?

MR. GALVIN: Yeah, the staff would have to do -- well in this case, this the SDA holder proposing an amendment. So, I guess --

MEMBER HALNON: Well, on the existing plant though, if that amendment was discovered to be a significant change to the plant that needed to be -- say it was a safety concern, in order to impose that on a plant that's already been operating, you'd have to do a back dated analysis.

MR. O'DRISCOLL: I think we'd be in a different process, but I think the answer is yes.

MEMBER HALNON: So, Vicki, I think that's the question. There's a different process you would go through to get --

CHAIR REMPE: So, your question also brings into play the discussion that some of the folks who had comments had about finality with SDAs, and why the staff said no there's no finality with an SDA until somebody puts it in their FSAR. So, I expected them to respond back to you using that type of discussion, but this is worth mentioning here, because it was another topic that came up in reviewing this material.

MR. O'DRISCOLL: All right. Any other comments?

MR. GALVIN: Let just clarify, this is Dennis Galvin again, so when we issue an approval, that has an approval, but of course it's not a license. So, I mean we're not disagreeing. Once it's incorporated by reference, the staff has to accept it unless there's a good cause for not accepting it in an application.

MR. O'DRISCOLL: In other words there's a degree of finality associated with an SDA. It's a staff review, the whole thing is still subject to ACRS review, NRC -- sorry, commission review, and ASLB review, and hearings.

MR. GALVIN: They have finality with regard to ACRS, which I guess isn't part of this discussion.

MR. O'DRISCOLL: That's right.

MR. GALVIN: This is Dennis Galvin again.

MR. O'DRISCOLL: You're correct, yes. But they don't have finality with ASLB, and the commission.

CHAIR REMPE: Right, but what I was trying to say was that if you changed an SDA, you wouldn't go back, and impose it on a licensee because you've accepted in approving their operating license, and that has finality, and so you'd have to go to the back

date process, is my interpretation of this process. Is that not true? Because there's more finality with an operating license that incorporates the SDA than there is with an SDA that's approved.

And that's why you wouldn't let them use the 50.59 process on an SDA, correct?

MR. O'DRISCOLL: The 50.59 -- sorry, I agreed totally up until the point about the 50.59 thing, and now I'm kind of trying to think about that.

CHAIR REMPE: Didn't the -- someone, was it NEI, or someone wanted to try, and also use 50.59 for an SDA? And I thought the staff said no.

MR. O'DRISCOLL: Okay. So, Dennis do you want to go into this?

MR. GALVIN: This is Dennis Galvin again. So, they want to do a -- it doesn't really make any sense in the sense of the 50.59 process is intentionally for operating licenses, and of course it's incorporated in for the design cert. But for this case, they want to change something that's an approval without prior NRC approval, it just doesn't -- it just gets to become a whole configuration, it's a whole mess, right?

MR. O'DRISCOLL: I think what it helps is to agree violently with you Dennis, the fact is that

having a 50.59 process implies the existence of other things, right? Quality control, record keeping, that may, or may not be there to the degree as it's required to have for a DC holder. So, we're trying to fit a kind of Cadillac process on an entity that may not have the desire, or the ability to support what's required to make sure that 50.59 process works right.

You've got to have record keeping, right? And like you said, it becomes a bit of a mess, because we're doing a change process on a staff approval, and it becomes kind of confusing.

CHAIR REMPE: I agree.

MR. O'DRISCOLL: Yeah. All right, okay, we'll move on to the next one. Okay, so this one, we talked about this before, this is on slide 27. No, we didn't, this is slide 27, referencing manufacturing license, and standard design approvals while they're under review. So, this is a process where Vogtle's rule would amend 10 CFR 52.173, and you can see that on reference slide 86, to repurpose it.

Basically we're changing the name to allow an applicant for a construction permit for a combined license to, at their own risk, reference in its application designs for which the manufacturing license is not yet granted. The staff proposes to

update guidance to clarify that the same can be done for a design for which an SDA is not yet granted. The purpose of these changes is to add clarity, and flexibility to the NRC's regulations.

The proposed change would afford the same flexibility for manufacturing licenses, and standard design approvals as that already exists, and is afforded for design certifications, and early site permits. Since manufacturing licenses have already received an adjudicatory hearing finding, a regulatory change is necessary for manufacturing licenses. For SDAs though, there is no adjudicatory hearing, so changes to guidance is appropriate.

The affected regulation is 10 CFR 52.173, which will be repurposed, and retitled. The affected reg guide is Reg Guide 1.206. This is a new scope item, so there was no public comments on this. And again, other than the rule making costs, we assessed this qualitatively. Anybody have any questions about this? Okay, I'll move on. All right, so this one we talked about earlier.

This is again, this is a no change. Finally, there's one other item under the change process, technically where the staff included discussion in the Federal Register notice. The item

is not related to any change in the regulations, or guidance. The staff included the issue on the FRN for completeness. The FRN discussion explains how the issue was dispositioned from what was previously recommended in the regulatory basis.

During the development of the proposed rule, the staff reconsidered the merit of its preferred option, which was rule making. The staff determined that the resulting regulatory changes that would be needed would not solve the identified regulatory issue as discussed in the Federal Register notice in Section III.H.2. The goal of this item was to eliminate perceived redundancy in the regulations.

The staff believed that since the Tier 2 change process was very similarly described in each DC appendix, the public would be better served if we moved the identical language to Subpart B 10 CFR 52.63. This change would have the appeal of reducing the size of the NRC regulations, because future DC rules would no longer have to describe the change process for that appendix in full, but would instead reference Subpart B for a majority of the process.

The staff discovered that because Tier 1, and Tier 2 change processes are closely coupled, the resulting draft regulatory language would be more

confusing. Therefore the staff does not propose to make any changes in the regulations in this proposed rule for this issue. Any questions on this? All right, well I'll move onto the next topic, which is actually a new technical topic called design scope, and standardization.

We're on slide 29. So, the proposed rule contains four items related to the issue of design scope, and standardization in Part 52. These items are the addition of standard definitions of tiered information to the definitions section of Part 52. Regulatory changes that clarify the phrase essentially complete design. Regulatory changes that remove the need to justify changes based on their impact on standardization, we talked a little bit about that before.

And removal of design certification rule Section IX from the DC appendices, and I'll provide some more detail about each of these. So, we're on slide 30, and we're talking about adding the definitions of Tier 1, Tier 2, and Tier 2*. So, the proposed rule would add the definitions of tiered information to 10 CFR 52.1 definitions, and would be applicable to future design certifications.

The proposed rule would add a new

requirement that DC applicants should identify the tiered information in their applications, and the new language you can see in reference slide 87. The purpose of this change would be to better standardize expectations for what should be classified, how, and by whom, ending the current practice of allowing applicants to use custom definitions of this information in each design certification would add clarity, and efficiency to future staff, and applicants on how to identify, and review the information.

An improved definition of Tier 1 should reduce the occasions where incorrect information is classified as Tier 1, which may reduce the need for future exemptions. The NRC received two comments on this item as it was described in the regulatory basis. The commenters requested that the NRC clarify that the curing of information is not required in FSARs for applications other than DCs, the staff agrees with those comments.

As a result, the staff modified its proposal to ensure the tiering of information will only be required for DC applications. The proposed changes are cost beneficial to both the industry, and the NRC. Any questions on this?

CHAIR REMPE: Sure, first of all I have a comment that really pertains more to Part 50, and what's coming up later on today, but you have made this definition for what is an essentially complete design, what about adding a definition later about what's an essentially complete conceptual design for the folks wanting to put a construction permit in?

I guess I was thinking about what we've seen with some of our Part 52 interactions, and is there anything that actually discusses what we often refer to in slang as carve outs? Because I mean it's happening regularly, and that kind of counters the definition of this essentially complete design.

MR. O'DRISCOLL: So, that's a good question, I'm wondering if we want to delve into that now, or -- because we do have a slide, and a discussion on that. I think it's coming up, it probably will come up in the afternoon, yes. Omid, do you want to respond now on that?

MR. TABATABAI: Yes, this is Omid Tabatabai, NRR. With respect to the term essentially complete design, that phrase has been used in Part 52 in quite a few places, but we had not defined it. And this rule making provides a definition, which is consistent with our lessons learned from Vogtle

constructions, license amendment requests, and how we can also improve some processes for the staff, and for the applicants.

With respect to your question about construction permits, if we want to add some similar definition for -- I didn't quite understand if you meant construction permit, or conceptual design, I didn't understand that.

CHAIR REMPE: Well, let me clarify what I meant real quick. For a construction permit, the staff has said that the applicant needs to provide an essentially complete conceptual design, is that defined anywhere?

MR. TABATABAI: I would defer that to one of my colleagues who is leaving the ISG for construction permits. I think the ACRS has been briefed on that, and I can find more, and get more information, and get back to you on that. But that's outside my area, or knowledge.

CHAIR REMPE: And again, you're welcome to discuss the carve outs later today if that works, but the reason I brought up the conceptual design thing is this rule making applies to both, and it just seems that in past -- I've only interacted with a medical isotope applications on construction permits during my

time on ACRS, but the issue of what is really required regularly comes up.

And I know in our review we always wanted more, and I'm sure the staff did too, and it shouldn't be that it's a fuzzy line, and it might be good to provide a definition for that while you're at it. I see Dennis's hand up.

MR. BLEY: Yeah, for a design cert, and for a COL under a design cert, well once they get their license, if they make changes -- Tier 2 gives them flexibility for making changes without prior approval by staff, and Tier 1, they always need prior approval. If we don't have Tier 1, and 2 for an SDA, what do they default to? Do they always need to get a change approved by the staff?

MR. O'DRISCOLL: Well, I think that it goes back to what Dennis says, and the licensing process, and what we anticipate for an SDA. The SDA is going to be subsumed into the FSAR in that case, so it becomes part of the FSAR, and they have to do the 50.59 process for changes. Does that help?

MR. BLEY: When we have Tier 1, Tier 2, Tier 1 is kind of sacrosanct, and not subject to some evaluation to say I'm okay. But if we don't have either, then yeah, okay, I guess that makes sense.

MR. O'DRISCOLL: Yeah. I mean I think the point is that the reason why you have Tier 2 is because of the fact that you have one review, one design, and that stuff has been approved, it's been certified. In other words, the commission has made a final finding on it, and for an SDA that is not the case.

MR. BLEY: Okay, yeah, thanks.

MR. O'DRISCOLL: Sure.

CHAIR REMPE: I think there's a hand up from the staff. Malcolm Patterson, and again, although I've called on your name, you're supposed to say your name just for the court reporter please.

MR. PATTERSON: Yes, this is Malcolm Patterson in NRR. I'd like to come back to this when we get to the later slides on the definition. The intent when writing the definition was to write it sufficiently generally that it would apply to an SDA, as well as to certified design construction permit, everything else. So, that would be a good time to address any deficiencies in the current proposed deposition.

MR. O'DRISCOLL: And just to ask a question, Malcolm you're talking about in that statement, the essentially complete design definition,

correct?

MR. PATTERSON: Yes.

MR. O'DRISCOLL: Okay, because that's important to say. Because again, this tiering stuff, we're only talking about design certifications for --

MR. PATTERSON: Right, nothing to do with the tiers.

MR. O'DRISCOLL: Okay, all right, because we kind of are talking two subjects right now, that's all. Okay, any other questions on Tier 1, Tier 2, and Tier 2* definitions? All right, I'm going to move on, it's later. So, slide 31 clarify the phrase essentially complete design. The proposed rule would add the definition of essentially complete design in the definitions section of Part 52. So, take a look at reference slide 88 for that.

The added definition would provide more clarity regarding the level of design detail needed in the DC application, and to better convey that the safety significance of the plant design features is relevant to this level of detail. Improved clarity on what it means for a design to be quote essentially complete unquote should better focus the applicant, and the staff to address matters that relate to safety.

The NRC received one comment on this item. The commenter requested that NRC review a letter sent to the NRC from NEI on September 24th, 2020. That letter had several recommendations on this subject. The staff partially agreed with the comment, the staff is not proposing any further changes to the regulations as a result of that comment. The proposed change is cost beneficial to both industry, and the NRC. Any questions on this concept?

CHAIR BIER: Yeah, this is Vicki Bier, and I do have a question. I want to make this super concrete to make sure that I understand what's actually being proposed. Would essentially complete include things like which electrical bus serves which component, or it's just like this pump gets power from DC power, or AC power, or whatever it is?

MR. O'DRISCOLL: So, I think the answer, I'm going to defer to Omid, but before I do that, I'm going to bring up the slide on that so that we can all see what we're talking about, if you guys don't mind. So, Omid do you want --

CHAIR REMPE: Could you say the number of the slide? Because I --

MR. O'DRISCOLL: It's slide number 88.

CHAIR REMPE: Thanks.

MR. O'DRISCOLL: It's on the screen, you should see that, I hope everybody sees that. It's a 52.1 definition, maybe a minute for folks to read that.

MR. TABATABAI: Jim, this is Omid Tabatabai, and Jim you may want to read it for folks on the phone who cannot --

MR. O'DRISCOLL: That's a great point, so let me read this. So, the definition is going to read as follows --

MR. BLEY: Jim, before you read it, I'm going to throw in a question to think about as we listen to it. But it almost sounds like essentially complete design is what we say it is. Go ahead.

MR. O'DRISCOLL: Okay, all right. Essentially complete design means a nuclear power plant design of adequate scope, and detail to enable the commission to reach a conclusion that the applicant has satisfied all applicable regulations associated with the design. The scope of an essentially complete design describes all structures, systems, and components required for safe operation of the plant in all modes.

Interface requirements are specified for features that are not included within the scope of the

design. The level of detail is sufficient to allow resolution of all technical issues using an approach informed by the safety significance of the plant's structures, systems, and components, and that's it. So, I guess going back to the design, I think the desire is always to be, to make this black, and white.

But I think unavoidably, this is my personal opinion as a technical reviewer, is that because we don't know what we're going to see, there's significant flexibility needed here for the staff to achieve its ends. So, you can't really get down to what bus, or whatever on this, it's a conceptual type of idea. And again, I'll just stop with that, that's just my opinion as --

MEMBER SUNSERI: This is Matt.

MR. BLEY: Go ahead Matt.

MEMBER SUNSERI: Just my initial reaction to that statement, is that's a pretty high bar, and I can't imagine how you would assess that until after the review is complete. Because how do you know that all information to resolve all technical issues are known until you review them? It's kind of like, well when it's done, we know it was sufficiently complete. But the applicant won't know at the time they're submitting it, right? You can't anticipate what are

all the questions you're going to have.

MR. O'DRISCOLL: Right, so we do have -- and this is sort of, maybe I shouldn't bring this up, but I will. We do have a reg guide that provides applicants guidance on what the contents of an application should be. It's Reg Guide 1.206, and that guide is supposed to help with that issue.

MEMBER BALLINGER: This is Ron Ballinger, what is the difference between essentially complete, and removing the word essentially by that definition?

MR. O'DRISCOLL: Omid, do you want to try to answer that one?

MR. TABATABAI: Hi, Omid Tabatabai here again. Essentially complete design, I don't know how to explain that without being too prescriptive from an NRC staff perspective. Not everything has to be spelled out, but I think Malcolm kind of went into that definition, that what's important for the staff is the design has to address main aspects of the design itself without site specific items.

And also, it has to allow the staff, the commission to come to a conclusion whether the design meets the requirements, or not. And one important aspect of making an application review a success is pre-application. We have a pre-application readiness

assessment process that we encourage the applicant to take advantage of, and that interaction goes into talking about whether, or not the application is in a form that allows the staff to conduct its review.

Or basically the design is complete, there is a sufficient amount of information for the staff to make a regulatory decision. So, that's to the extent that I can describe what we mean by essentially complete design. Malcolm, do you want to?

MR. PATTERSON: Yes. You made reference to a specific issue, which was for example the ultimate heat sink, or parts of a plant design that wouldn't be specified at the design certification stage. You would only need to specify the interface requirements. When you're doing a combined license application, or a construction permit, of course you would need to address those as part of an essentially complete design.

And so the wording of the definition attempted to cover both to address the fact that very different information requirements will apply at different stages, they'll be less required for a design certification, they'll be even less potentially required for a standard design approval, because that may not include the entire scope of the plant. It may

be limited to just the NSSS. Does that help?

CHAIR BIER: I thought I understood I before your clarification, and now I think I'm more confused. So, you're saying that an essentially complete design at the stage of a construction permit application, or a combined operating license application would need to include all that level of detail of like what wiring diagrams you're going to give the electrician during construction, but it's just not required at the earlier stages like SDA. Is that correct?

MR. PATTERSON: The specifics of your example are wonderful, they give me the opportunity to make the point. No one is going to have that level of detail when they apply for a combined operating license, or a construction permit.

CHAIR BIER: Got it.

MR. PATTERSON: They're simply not going to invest in that level of detailed engineering, but we shouldn't think that that doesn't mean that they provided a design that's not complete.

CHAIR BIER: I understand that point, I think this is important for something that I'm going to bring up later with regard to PRA, so as long as I understand what the requirement is here, I can

postpone the rest of my discussion, thank you.

MR. PATTERSON: The issue is created because we've used the term essentially complete design to apply to designs at different stages, and it's created confusion on the part of the industry. This definition was an attempt to clarify that an essentially complete design isn't the same thing at all stages of the process. That it's less in the conceptual stage, it's going to cover everything in the plant when you get to an operating license.

MR. O'DRISCOLL: So, I believe Eric Oesterle has his hand up too.

MR. OESTERLE: Yeah, thanks, this is Eric Oesterle from the staff. I just wanted to offer that there is a lot of good background, and additional information regarding level of detail for design certification, and essentially complete for design certification contained in a SECY paper back in 1990. It's 90-241, so that provides some additional background for folks to take a look at in developing some perspective on essentially complete design, and level of detail for a design cert.

CHAIR REMPE: Could you specify the number for that SECY paper please?

MR. OESTERLE: Yes, 90-241.

MR. NGUYEN: What I'll do is I will find it, and download it to the reference documents for the committee.

CHAIR REMPE: Thank you Quynh.

MEMBER HALNON: This is Greg, real quick, are you going to scrub through Reg Guide 1.206? Because you've got several definitions of essentially complete in there.

MR. O'DRISCOLL: Omid, do you want to take that one on?

MR. TABATABAI: This is Omid Tabatabai, the definition of that term is going under 52.1 definitions section in Part 52. And the Reg Guide 1.206 will not repeat the definition, but provide additional context to the definition, and examples, and things like that.

MEMBER HALNON: Okay. It does talk in 1.206 about procurement specifications, construction installation specifications remain complete enough to be able to be audited by the NRC, that seems a little bit different than safe operation of the plant. I think it just seems like if you're going to have a definition, it should include at least a tie to some of the other words you're using in 1.206.

MR. TAYLOR: I wanted to make another

point since the subject of PRA came up. There are aspects of the consensus standards that we've endorsed that can't be addressed at design certification, or combined license application. The same would apply for a PRA developed for a construction permit. And we have an ISG, if memory serves, it's ISG 28 that establishes the staff's position about those supporting requirements of the PRA that need not be addressed at those stages. We don't expect them to be addressed until you're talking about the PRA that's required in order to load fuel for the operating phase.

CHAIR REMPE: Dennis, you've got your hand up.

MR. BLEY: I do, and I've got a couple points, and things to bring up, this discussion has been very helpful. One of the things Malcolm said earlier struck a chord, and I think if you think about this one, your first sentence, essentially complete design means nuclear power plant, and on, and on, all applicable regulations associated with the design -- if you added a phrase at the end of that for this stage of the licensing process, or something like that, it would emphasize the point that you folks made.

That essentially complete design changes over time, and I don't think the definition quite gives that sense, and a couple of words might get you there. Two, Jim's point earlier that really, the guidance documents are what you have to go to at each stage of the design to see in more detail what the staff thinks you need to satisfy this issue, and I agree with you on that.

One question is you made this change, did that lead you to think that you need to make any changes to any of the guidance documents? That's all from me.

MR. O'DRISCOLL: Omid, do you want to add to that one?

MR. TABATABAI: This is Omid Tabatabai here, we looked at the reg guides, and specifically 1.206, and again, looking at the comments that the staff received from members of the public, or industry, I can't remember, to include a definition for that term in the regulation, we did that. And we don't think that there is any contradiction, or inconsistency between the definition, and what's already provided in the reg guides.

Again, the question is how much elaboration we need to make to translate what's in the

regulation into guidance documents. I think there has to be, at some point -- to keep it at a level that allows the applicants to come up with their own methodology to address the regulation, as opposed to us prescribing everything that's on the regulation.

MR. BLEY: Thanks Omid, I agree with you.

CHAIR BIER: So, I know we're going to need to break for lunch in just a minute, or two. Unfortunately one of the committee members has a hard stop, so we can't kind of get to a more natural stopping place. Are there any last quick comments on this set of slides, or this topic? And then we'll pick up again after lunch.

MEMBER KIRCHNER: Yes Vicki, this is Walt Kirchner. I think you have a more fundamental problem in 10 CFR 52. The word essentially complete design shows up in the beginning of 52, and if you go back to when the staff created that rule back, now what, 20 some years ago. It implied, or the thinking I believe was that there would be a level of maturity in the design, and I'd suggest it would be evolutionary LWR, something that was fairly well demonstrated, might have been a prototype, or whatever.

But you have a break point, when that phrase shows up, it goes on, and then it says or a

design with advanced, or inherent -- I'm doing this from memory -- passive safety features, or something. So, there's a fundamental problem in 52, because I can see in the eyes of an advanced reactor designer, that that essentially complete design, that only applies to the LWR people.

I've got a new novel design with all these great inherent safety features, and that doesn't apply to me. And if you look at the language in 52 that I'm referring to, you'll see that. And when it branches in 52, and says or is designed with passive features, et cetera, there's no -- the level of maturity is not -- the requirement, or the parallelism isn't there requiring a prototype, or other demonstration for these new designs.

So, this is an observation, not a question, I just think there's a fundamental problem in 52 that opens the door to potential designs that just aren't mature enough for you to really disposition through the 52 process. End of statement. And I would suggest that somehow there's something missing that would have the staff take those people back to 50, and go through the two step process, which is more appropriate for a less mature design.

CHAIR BIER: That's a really interesting

comment. So, we can take that all up later. I think at this point we are adjourned for lunch until 1:30, is that correct? Okay, all right, I'll see everybody soon, thank you.

(Whereupon, the above-entitled matter went off the record at 12:01 p.m. and resumed at 1:30 p.m.)

CHAIR BIER: So, it looks like it is officially 1:30, is staff on the line, and ready to pick up where we left off?

MR. O'DRISCOLL: This is Jim O'Driscoll, I'm ready to go.

CHAIR BIER: Okay, I think we're ready to go also again, we may have one, or two people trickling in a little late, but we should probably get started. So, thank you.

MR. O'DRISCOLL: Okay, welcome back everyone from lunch. We were on slide 31, where we talked about the phrase essentially complete design. I believe we finished discussion of that for now, and I'm going to move onto slide 32. Slide 32 has to do with restrictions on changes to a design certification for a combined license referencing a design certification for reasons of standardization.

So, the proposed rule makes changes to the Part 52 change processes for design certifications,

combined licenses, and manufacturing licenses. And you can see those changes on reference slides 89, and 90. Those changes remove the requirements to consider the impact of proposed change on the standardization of design when requesting exemptions from a referenced design certification.

The purpose of this change is to reduce the staff, and applicant burden by removing any -- I'm sorry -- and a necessary justification argument from the exemption request. The staff did not receive any comments on this item, and the proposed rule -- sorry, the proposed change is cost beneficial to both the industry, and the NRC.

So, with that, is there any questions on this item? All right, I'll move on. So, we're on slide 33, design certification rule Section IX. So, the proposed rule would remove redundant Section IX, the ITAAC section from Appendix D, which is just the AP-1000 DC rule. In earlier rule making in 2007 made the information in this section redundant with information in several sections of Part 52.

So, we address this issue, basically the redundant information issue in the ABWR renewal in 2020. We are removing, and reserving Appendices B, and C in this rule making, so that takes care of those

two appendices, and we identified this issue before the ESBWR design certification was issued. So, we took care of this issue with that one. Therefore only Appendix D would need to be amended.

The NRC received one comment on this related to ITAAC in general. The commenter requested that the NRC considered revising the required schedule of ITAAC closure notification. The NRC agreed with the comment, and the staff now proposes to amend 10 CFR 52.99, which is on slide 91, to reflect the reality of ITAAC schedule, and completion. So, other than rule making costs, again, the cost benefit was assessed qualitatively.

Any questions on this? Okay, I'll move on. Slide 34. References assigned to standard design approvals. We're now at slide 34, the proposed rule would amend the regulations to clarify that applicants can reference more than one SDA in a license application. The regulations affected are 10 CFR 52.73, 52.79, 52.133, and 52.153, and you can see those on reference slides 92 to 94.

So, the purpose of this change is to resolve ambiguity on the subject. The NRC did not receive any public comments on this item, and other than the rule making cost, the staff assessed the cost

benefit qualitatively. Does anybody have any questions on this? Okay, we'll move onto the next topic, which is content of applications. And this is also, we're still under the licensing general area, but this is another topic.

So, we're on slide 35. The proposed rule contains four items related to the content of license applications. These items are the removal of the requirement for a light water reactor applicant to submit a report detailing how its application conforms with the standard review plan. Regulatory changes that align Part 50, and 52 requirements for timely completion of construction.

Clarifications in the DC appendices on what parts of the CFR, Code of Federal Regulations, apply for certified designs. And clarification of requirements for an environmental qualification program for manufacturing licenses. And I'll provide more detail about each of these. Slide 36. So, modify requirements to evaluate conformance to the standard review plan.

So, the proposed rule would remove, and reserve several regulations that require an applicant to include an evaluation of conformance with the standard review plan that was in effect six months

before docketing of the application. So, the changes, you're going to see these in reference slides 95, 96, and 97. So, recent experience with the reviews of large light water reactor applications showed that applicants expend significant resources to evaluate the differences between their application, and the SRP, and to develop a report of this information.

The staff observed that such an extensive report, or evaluation was not necessary, because the information in the body of the application provides the same information. The NRC did not experience sufficient review efficiency increases to justify the burden of the requirement on applicants. The NRC did not receive any public comments on this item, and we have calculated that the proposed change is cost beneficial to the industry.

Any questions on this? Okay, moving on to slide 37. This is to align requirements for timely completion of construction. The proposed rule would amend 10 CFR 50.100, and that you can look at in reference slide 98. By removing a reference in that section that makes the requirement for quote timely completion of construction unquote grounds for revocation of a combined license per the requirements of 10 CFR 50.55.

Which is condition of construction permits, early site permits, combined licenses, and manufacturing licenses. This reference is incorrect, because Section 50.55, which governs conditions of certain licenses, including combined licenses specifies which provisions apply to combined licenses. These provisions do not include the requirement for timely completion, that is 10 CFR 50.55B.

Among those that apply to combined licenses, 50.55 does not apply to Part 50 operating requirements. So, the purpose of the change is to clarify the regulations, and the NRC didn't receive any public comments on the item other than rule making costs, the staff assessed the cost qualitatively. Any questions on that? All right, I like it, it's after lunch.

Slide 38, clarify applicable regulatory parts for certified designs. We're now at slide 38. The proposed rule would amend Section V of the design certification rules in Appendices D, and E to specify that Part 52 is among the regulations that apply to the designs. This would align these appendices with the others. So, you can look at the change, it's in reference slide 99.

The purpose of this change is to clarify

the regulations. The NRC did not receive any public comments on this item, and other than rule making costs, the staff assessed the cost benefit qualitatively. Any questions on that? Okay, going onto slide 39. So, this one is clarify the requirements for environmental qualification program for manufacturing licenses.

The proposed rule would amend the regulations, and you can see the change in reference slide 100, to address an inconsistency, and clarify the regulations indicate that an applicant for a manufacturing license must include a program for environmental qualification of electric equipment in its final safety analysis report. This clarification would ensure future applicants include such a program in their applications.

As was the intent of the commission when the 2007 Part 52 rule was issued. The 2007 Part 52 final rule revised Section 52.79 A10 to require a description of the program, and its implementation required by Section 50.49A for the environmental qualification of electric equipment important to safety. But of course finding revision was not made to Section 52.157 F6. So, this is a new item the staff added to the scope during the development of the

proposed rule.

Therefore the NRC did not receive any comments on this item from the public as of yet. Other than rule making costs, the staff assessed the cost benefit qualitatively. All right, so any questions on that? All right, here we go, fun stuff.

CHAIR BIER: So, we are about to move onto the whole next topic, so if there's any kind of back log of questions, or concerns on what we've been over, it might be a good time to raise them. But if not I'm happy to move onto severe accidents. Okay, carry on, you can go ahead Jim.

MR. O'DRISCOLL: Okay, so we are now on slide 40, severe accident treatment requirements. This is one of the alignment items specified in the SECY-15-0002. The proposed rule would amend 10 CFR 50.34 to require future Part 50 construction permits and operating license applicants to identify information on severe accidents. You can see that reference slide 101, and 102, those two slides.

The proposed rule would also add evaluation criteria related to ex-vessel severe accidents in 10 CFR 50.59. These criteria would apply only to future Part 50 licenses. The NRC received five comments on this item as it was discussed in the

regulatory basis. One commenter stated that the new requirement would require detailed analyses that would not be available at the construction permit stage, the staff disagreed with the comment.

The staff believes that the current level of design detail that the regulations currently require to be provided in a Part 50 construction permit would be sufficient for the applicant to develop the required severe accident analyses sufficient to demonstrate what is needed to grant a construction permit. Another commenter said that the current regulatory framework for severe accidents as described in the regulatory basis is incomplete, and does not reflect all issues relevant to the NRC's severe accident policy statement. Such as the Three Mile Island items.

The NRC agreed in part with the comment, and pointed out that the intent of the recommendations in this area is to compliment what we are recommending for TMI items in the rule making. One commenter stated that the NRC's assertion that future Part 50 applicants must address severe accidents is in conflict with the intent of the commission's severe accident policy statement.

The staff agrees with this comment,

because the policy does not exclude the review of severe accident vulnerabilities. Because they are subject to review, and design certification, standard design approval, and manufacturing license applications on future Part 52 applications that do not reference these items in their COLs, for consistency it should also apply to construction permits, and operating licenses as well.

Another commenter asked if future Part 50 applicants must also address unresolved safety issues, and medium, and high priority generic issues. The staff agreed yes, they must. Accordingly the proposed rule would ensure that Part 50, and 52 applicants consistently address these issues. Finally one commenter asked if information on severe accidents provided at the construction permit stage should be preliminary only.

The staff agreed that is our intent, and no changes to the staff's recommendation in the regulatory basis was needed. The proposed change to require future Part 50 construction permit, and operating license applicants to identify information on severe accidents, and evaluate ex-vessel severe accidents would result in additional cost to the industry to develop these analyses at the construction

permit stage. But it would result in a cost savings for the NRC. Any questions on that?

CHAIR REMPE: Sure. If you go to page 102.

MR. O'DRISCOLL: Okay, will do.

CHAIR REMPE: There is a footnote, and I believe it's footnote IX, and it talks about the phrase that you should evaluate ex-vessel severe accidents to determine such that a particular ex-vessel severe accident previously evaluated, and determined to be not credible become credible. How does one know is there a cutoff frequency? How does one know if it's credible, or not credible?

MR. O'DRISCOLL: Okay, so first off I think you're referring to page 102 of the preliminary draft proposed rule.

CHAIR REMPE: What you've got up here, yes.

MR. O'DRISCOLL: Okay, good. Okay, so I think if Malcolm Patterson is on the line, I could ask Malcolm to speak up on this one if he's available. There's a hand raised.

CHAIR REMPE: And it is Malcolm.

MR. PATTERSON: I just wanted to tell you where to reach me, but I'm not clear on what the

question is.

CHAIR REMPE: Okay, I guess I'm curious about the term credible, and not credible in this footnote. How do you know what credible is? Is it 10 to the -7, 10 to the -8? What's credible, and not credible?

MR. PATTERSON: This is not something the staff has defined. Whether it was determined to be credible, or not is something that would have been assessed when the license was issued. You're talking in 50.59 here, the question is was this accident considered not credible, was it considered in the license process? And has this modification rendered it credible?

We don't have to decide that a new accident has come along, this is a question of has an accident sequence that we have considered, and determined not to be credible, become credible.

CHAIR REMPE: Again, how do you decide what's credible, and not credible? Maybe we're talking past each other, but is there a cutoff frequency for when something is credible, or not, is what I'm asking.

MR. PATTERSON: We do not use a cutoff frequency. I believe that our position is that

credibility is the prerogative of the commission to determine.

MEMBER BROWN: Well, what's substantial mean also? The probability, that seems like a vague, that's going to be subject to the eye of the reviewer. Same thing with what's credible.

MR. PATTERSON: I have to say I believe that that's intentional.

CHAIR REMPE: It's new wording, and as Member Halnon pointed out, this is the same old discussion, and I guess I thought one of the objectives of this rule making effort is to provide more clarity.

MR. PATTERSON: Yes, it's also to provide alignment, this wording is taken directly from Part 52. This is in the appendices to Part 52 for each design, these questions are presented in Section VIII. We refer to that as the 50.59 like process, and the reason it's not the 50.59 process is these two questions. We're now adding these questions to 50.59. So, the 50.59 like process will become identical to the 50.59 process because we're changing 50.59 to match.

CHAIR REMPE: It sounds like we're going to keep the lack of clarity in both places is the

answer.

MR. PATTERSON: The level of clarity will be consistent.

CHAIR REMPE: Okay.

MEMBER BROWN: What did you say Greg? I didn't hear you.

MEMBER HALNON: Just what he just said, I said you're going to align the ambiguity, and the licensees will go to where Joy's head went, and that is we need a cutoff frequency, we need something. What is that line to cause the crossover? We're having the same discussions in the NuScale EPZ discussion relative to what is a credible accident that we have at design phase. So, the discussion will continue, you'll have to go back to the 50.59 guidance that NEI put out that the NRC endorsed, and it'll be a constant discussion that goes on.

MEMBER BROWN: But this is about a change that results in a reevaluation of the quote credibility, and, or the substantial change.

MR. PATTERSON: That's exactly right.

MEMBER BROWN: If we backtrack to the difficulties with replacing I&C for instance, the whole issue was how can you prove that software is not going to propagate to all the channels, and you will

not do a shutdown when you're asked to? Which is now a new circumstance, because you replaced the equipment. And it's just there are people that think that's totally possible, and don't even think having four independent channels with independent instruments, et cetera, et cetera, et cetera.

They still posit that if this stuff locks up, they're all going to lock up. The framework is right, you've got a 99.9999 percent chance that it's not going to happen, nothing's going to happen, probably 100 percent, but I'd be shot if I said that. And I don't have rose colored glasses, I just dealt with it for 22 and a half years. And it just seems to me we're impeding, we've thrown another circumstance now into putting a break on people.

And I just use that area as an example. I mean I presume there's probably others where you replace some equipment, and now it's different from the original equipment, and you don't know all of its failure modes necessarily, because it hasn't been in service as long. How do you --

MR. PATTERSON: Perhaps I can inject a note of optimism, if the --

MEMBER BROWN: I don't have any optimism with this, it's just --

MR. PATTERSON: It's not within the scope of this rule making, but there are other parts under consideration that have sharper lines. So, we may get to the point where there's a clearer basis for making this determination. It's just not going to happen in Part 50.

MEMBER HALNON: This is Greg Halnon, I think this is the wrong mountain to climb at this point.

MEMBER BROWN: I have never had a problem with that, as my colleagues can attest.

MEMBER HALNON: Again, I guess my point is it's sort of like EPZ and source term issue, we're not going to resolve the source term issue in the emergency planning rule. We're probably not going to resolve this issue in this rule change, but we have --

MEMBER BROWN: If we don't add it.

CHAIR BIER: Well, it sounds like we're not adding new ambiguity. And any process that reduces the ambiguity would be in some other rulemaking, not here. Is that --

MR. O'DRISCOLL: Well I think, but I also think it's a necessary, this is Jim O'Driscoll, a necessary change because we are making a requirement for new Part 50 applicants to address severe

accidents. So you want to have some kind of control process on that.

You need to be able to say, well, okay, now if you are doing a change you have to consider severe accidents.

CHAIR REMPE: So, there has been some chat messages about meeting conduct appearing here. If anyone from the Staff talks they need to, as well as others on the phone line, they have to identify themself. But I need some clarity, do Members also need to identify themselves?

MEMBER BROWN: Good point. I thought I had the lessons down --

CHAIR REMPE: Yes. I just, Quynh, could you or the court reporter please speak up and let us know if Members also need to identify themselves or are you mic tracking in this hybrid?

MR. NGUYEN: I'm going to acquiesce to Charles to comment if the Members need to identify themselves. Charles?

COURT REPORTER: This is the court reporter. I know the voices of the Committee Members well enough they don't need to identify themselves.

(Laughter.)

CHAIR REMPE: Thank you very much, I

think.

MEMBER BROWN: Thank you. Thank you.

CHAIR REMPE: But everyone else, and I'll try and monitor, and Vicki will too, but I just wanted to make sure we understood. Thank you.

MR. O'DRISCOLL: Okay. Sorry, we were talking about this. Are we done or do we want to continue the discussion?

CHAIR REMPE: So --

MR. O'DRISCOLL: On this.

CHAIR REMPE: -- just so I understand now, does the severe accident and SAMDA analysis, where you look at alternatives, all need to be done, although preliminary, at the construction permit stage and then updated to the operating license stage, correct? With this new rulemaking.

MR. O'DRISCOLL: I can tell you the, I can't speak to SAMDA. Malcolm, can you mention, can you speak --

MR. PATTERSON: I think that is exactly right.

MR. O'DRISCOLL: Okay.

MR. PATTERSON: It's when the environmental impact has to be assessed. So construction permit or COL application.

CHAIR REMPE: Okay. And again, I'll bring up my question, comment I brought up earlier. It would be good to, if you're going to put a definition for an essentially complete design, I think you ought to think seriously about having a definition for an essentially complete conceptual design. Which is what's required for the construction permit.

MR. O'DRISCOLL: Okay. All right. Okay, so I'll move on to the next item which is our favorite one, PRA. So let me start that one.

I'm Jim O'Driscoll again and, let's see, where are we here. Okay. So PRA is another one of the items that we had that were called alignment items that were specified in the SECY-15-0002.

We have three issues that relate to PRA requirements that we're addressing. These are related to, requiring the use of PRA in design, making the risk-informed process for safety related structures, systems and components more accessible, and changing the timing of PRA upgrades.

So I'll provide some more detail on each of these. And you can look at slides, references Slides 103 through 106 to show the changes.

So, I will move on to slide --

CHAIR REMPE: Don't move on.

MR. O'DRISCOLL: Sure. Okay.

CHAIR REMPE: I know this is in Part 53 today but when we talk about the new reactor designs, a new reactor design doesn't necessarily mean a non-LWR, I'm also thinking of small modular LWRs.

Maybe we need to think about how the initiating events are selected. And I know that ACRS repeatedly refers to a clean sheet of paper.

Is there anything in the rulemaking text or the guidance that you're proposing to be changed that emphasize a systematic process for thinking about what the initiating events are?

MR. O'DRISCOLL: So I think I can answer that, but, Malcolm, please correct me if I'm wrong. But we didn't fundamentally change, we're not fundamentally changing any process steps in the development of a recommendation of how to develop a PRA, we're simply aligning the regulatory processes in this rule.

Malcolm, do you want to chime in or correct me?

MR. PATTERSON: I can't think of any improvement on your answer. Sorry, this is Malcolm Patterson.

CHAIR REMPE: I think I see Marty

Stutzke's hand was up. Is that still true?

MR. O'DRISCOLL: It looks, yes.

MR. PATTERSON: He would be more useful.

MR. O'DRISCOLL: Marty? Marty --

MR. STUTZKE: Joy, I'm here. As we had discussed with the future plant design subcommittee back in December, we're in the process of developing technology inclusive guidance to do the search for initiating events, the delineation of accident sequences and then the identification of licensing events.

And I'll emphasize, that's intended to be technology inclusive, so it would address LWRs as well we non-LWRs. In fact, tomorrow we have an alignment meeting with them and NRR to discuss this further.

CHAIR REMPE: Well, I think that's great. And I just wish that we've listened already to the list of guidance documents and technical reports and the SRP changes. And it just seems like that whatever you're developing ought to be considered in this rulemaking effort.

And I see Dennis' hand up too.

CHAIR BIER: Okay, Dennis.

MR. BLEY: If we go to Slide 103.

MR. O'DRISCOLL: Okay.

MR. BLEY: I guess this is kind of a legal interpretation because as I read it I get, I'm not certain. On or after the effective date of the final rule applicants must include.

So, if you get your application in before that date you don't have to include these things. If the application is filed on or after that date you do. Is that the correct interpretation?

MR. O'DRISCOLL: Yes.

MR. BLEY: Okay, thanks.

CHAIR BIER: Okay, I also have a question, going back to the original slide, 40 whatever it was.

MR. O'DRISCOLL: Oh, okay.

CHAIR BIER: 41 I guess. Yes. So I will, so I'm talking, there we go. Okay. Nope, up one. 41.

MR. O'DRISCOLL: Oh, I'm sorry. Oops, hold on.

CHAIR BIER: I mean, it fits both but that's okay.

MR. O'DRISCOLL: Here we go. Sorry.

CHAIR BIER: So my question, and it may be that staff has methods in place to deal with it but I would like to know what they are.

So at the construction permit stage I

certainly think there is a benefit from requiring PRA. But as we discussed earlier, a lot of the specifics of wiring, et cetera, is not going to be specified at that stage, it's going to be more conceptual, so to speak.

And at the time of operating license, obviously all of that will then be known. And the thing that I'm a little worried about is whether vendors, applicants, whoever, will hang their hat on, I already have an approved less detailed PRA from the construction permit stage. NRC signed off and said it was acceptable.

And it's not wrong, it's just less detailed. And is there a procedure in place to say, no, you really have to come up to speed with all the details of what gets power from where and et cetera, what the set points are on the equipment, all the details.

Does that need to be included or could a plant come in and say, hey, Mike, construction permit PRA is still accurate, modular these minor changes and I'm not going to do any additional detail?

MR. O'DRISCOLL: Malcolm, do you want to take that one? I think that's a reg guide question.

CHAIR BIER: Okay.

MR. PATTERSON: Well, no, it's a regulation question. 10 CFR 50.71(h)(1) requires licensees to ensure that the PRA has been updated to model the plant as-built. It must also be upgraded.

For example, if you have used a seismic margins analyses to get your license you now are expected to have a seismic PRA. We've issued, we have approved a consensus standard on seismic PRA. Same thing for fire.

So those aspects of PRA that rely on detailed understanding of exact plant configurations must be addressed before you enter the operating phase. That PRA has to be done before you can load fuel.

CHAIR BIER: So Staff would be responsible for enforcing that level of accuracy or detail, or whatever in the analysis to say, nope, sorry, your previous construction stage one is no longer adequate, is that correct?

MR. PATTERSON: Yes. But let me point out that the PRA is no longer submitted to the staff for review it is simply available to us for inspection.

CHAIR BIER: Okay.

MR. PATTERSON: And we do so when we find it necessary. We're doing it now when we do risk-

informed technical specification changes, for example.

The PRA has to be done, but it doesn't get approved by the staff. It won't be approved by the staff to load fuel, but we will look to ensure that that step has been completed.

MEMBER BROWN: This is only for the first fuel load, right?

I mean, this is not back to, I went back to the previous slide. This is only for plants that are just now being specified, developed and built.

MR. PATTERSON: Right. This applies --

MEMBER BROWN: Not that --

MR. PATTERSON: It's all Part 52 plants and it's only Part 50 plants for which applications are submitted on or after this becomes effective.

MEMBER BROWN: Okay, I got it.

MR. O'DRISCOLL: Yes, it goes back to that previous question.

MEMBER BROWN: Yes, exactly. I got that now. Thank you.

CHAIR REMPE: So --

MR. O'DRISCOLL: Okay.

CHAIR REMPE: -- I had a question or a comment about the standard review plan and how it's going to be updated. Because I know you, the changes

are not yet provided to us.

But I was looking at the original document. Or the currently available document. And in there on Page 34 out of 41 of the original documents it's a statement about, the Commission anticipates for the plants operation rule select to rejection and risk compared to existing operating plants.

And, I mean, if you keep thinking that the newer ones are going to be safer, and again, they're going to be safer and safer, or safe enough. And maybe it's time, if you are updating the SRPs, to remove that statement. What do you think?

MR. O'DRISCOLL: Well, Malcolm, what do you think?

(Laughter.)

MR. PATTERSON: Well, I can offer my personal opinion which is that we shouldn't talk about new plants or old plants or operating plants. We could have been more specific.

In some places we said plants in operation as of, I forget the date, but it was when we issued a policy statement. I would say plants for which construction permits were issued in the 20th century, okay.

CHAIR REMPE: But anyway --

MR. PATTERSON: -- that limits the --

CHAIR REMPE: -- if you're starting to finalize your documents you might think about changing that statement is what I was kind of thinking. But again, it's just one Member's comment.

MR. O'DRISCOLL: Okay.

CHAIR BIER: And I do want to come back to my earlier question where the applicant needs to have a PRA but they don't require that it be submitted to NRC, unless they have something like risk-informed tech spec changes or something.

So if the licensee had their PRA and it was not detailed enough to pass NRC muster if they were to review it, could they still load fuel or not?

MR. O'DRISCOLL: So I think, Malcolm, you answered this question before. So we, even with the existing regulatory structure, we know, the staff does not review, as part of the application, the actual applicant's PRA.

We review the summary and results of that PRA. And based on that input, we determine whether we need to do an audit or not on the PRA.

So what I believe, Malcolm, correct me if I'm wrong, but if there is reason to believe that the

PRA is not the results of the, updated results and summary is not enough information for us to determine things we can always do an audit at the operating license phase on the PRA. Malcolm, do you want to opine there on that one?

MR. PATTERSON: This is Malcolm Patterson. I don't have anything to add to that answer. We don't approve the PRA if there is a deficiency in the PRA when we are evaluating it for technical adequacy. We won't grant whatever it is that relies on that PRA.

If we're talking about fuel load, obviously we've already issued an operating license. So if we've looked at the PRA, we have been confident that it was adequate for issuing an operating license.

CHAIR BIER: Okay, thank you.

MR. BLEY: This is Dennis Bley. Vicki, I know that you've been around for the design certs we've done, what kind of happened 15 years ago, maybe 20, PRAs for the large LWRs got really big. And you couldn't print it in a way that you could really review it well.

And they're maintained up to date on an almost daily basis. So that's why they have the summary report.

When NRC Staff needs to make sure that

it's appropriate in some area, when they do an audit, what I've seen happen is they go to the, one of the sites of the vendor and look at the model of the PRA and ask questions, have things, look at pieces of the model within the computer system.

And NRC doesn't maintain all the different PRA codes that people use so they don't get the whole PRA. Plus it's changing pretty regularly. So that's kind of why they're at the spot they're at.

But --

CHAIR BIER: So, yes.

MR. BLEY: -- they have, yes, they do go in and have it manipulated so that they can see what's there.

CHAIR BIER: So I understand that broader issue, but maybe, Dennis, you and I should just have a quick phone call sometime next week to make sure I'm on the right page or whatever and not take time today. Thank you.

MR. BLEY: Sure.

MR. O'DRISCOLL: Okay. So --

MR. PATTERSON: I would like to --

MR. O'DRISCOLL: Go ahead. Go ahead, Malcolm.

MR. PATTERSON: I'd like to make one other

point which is, that we maintain SPAR models. So we have an independent check on the PRA models used by the licensees.

They aren't as detailed, but it's another one of the tools that we have in our tool belt to make sure that these PRAs are suitable for the applicants licensees are using them for.

CHAIR BIER: Thank you.

CHAIR REMPE: Vesna, I see your hand up.

MR. O'DRISCOLL: Somebody's hand up.

MEMBER DIMITRIJEVIC: Yes. These, I have a problem raising my hand on this, my computer. Went to sum up this last night and it doesn't really work too well today.

So I wanted to add something to the, this is Vesna Dimitrijevic, and I wanted to add something to previous discussion. Also to help to define the issue which is here. And states here. And in some moment we'll have to believe so.

Because I went through these process with, you know, Framatome and EPR. When we combine the PRA information that is in Reg Guide 1.206, which we find exactly what information should we provide, and analyze that information and other classes of this information.

However, the PRA provides also inputs to other programs in FSAR. Like for example, the human factors.

You know, if you're getting the important human actions are for DRAP. You know, the important inputs to DRAP.

And this is all based on the PRA on the level of the visual design certification. Or we can call it planning an a PRA or a planning an PRA number one. There is different phases of the PRA.

And the more information that's available you know, through construction, through the developing procedures, through the PRA literature, and not just design. I mean, there is so many information coming. Locations, the final PRA and this argument cannot be done without construction and locations being completed.

So, the PRA is the end before the full load can, doesn't necessarily have to. It can be significantly different when comes to the evaluating importance of the human factors. Using human factor fusion netting or DRAP inputs.

And at this moment, in the current process that NRC doesn't have a really, the regulatory, the input to check other inputs from the previous PRA is

still valid. That only the PRA advancement we go for, for licensees, we have some specifically informed applications which would require the peer review of the PRA based on the current approved Reg Guide 1.200 in the PRA standards.

So, there is a disconnect. It may be significant or maybe not, I'm not sure, between what, how the PRA was used up to the moment where it was approved and how it looks in the moment when the plant goes on the line.

And so, and I pointed this a couple of times but I personally am not sure how this disconnect can be addressed. So this is my input on the section.

There was always this disconnect, you know. The PRA inputs to the problems and back to PRA. Once when have been reaching the level to satisfy 1.200 in PRA standards. All right.

MR. O'DRISCOLL: Okay. Malcolm or Marty, do you want to respond to that or want anything to add to there?

MR. PATTERSON: This is Malcolm Patterson. I think that's a very clear description of the state we are in. But again, this was an alignment effort not so much an attempt to advance the ball.

We still have that gap, but I think that

as licensees choose to use the PRA for more, even the new licensees will quickly have all the tools available to use the PRA more effectively. I mean, risk-informed surveillance frequencies, risk-informed completion times, risk-informed testing.

There are lots of things that make the licensees life better that they will do that make sure that the PRA is adequate to support.

MR. O'DRISCOLL: All right. Well thanks, Malcolm. Any other questions or comments on the overview slide before I go into the next topic?

Next item actually, which is the Slide 42. One second. Okay. Okay, so this is the first item under the PRA. We're on Slide 42. And this described, you can see the changes in slides, reference Slides 103 and 104.

The proposed rule would amend 50.34 to require applicants for future Part 50 power reactor construction permits and operating licensees to submit a description of the plant-specific PRA and its results in the construction permit application.

In addition, the purposes of the changes to encourage the use of PRA methodology in the design phase of the project. The existence of a PRA also would allow the NRC Staff, and the applicant, a better

basis to risk-inform the review.

A risk-informed review is much more efficient than a deterministic review and should result in decreased burden in the licensing phase. So, NRC received ten comments on this item as it was discussed in the reg basis. And I'll go through these comments.

One commenter expressed a concern that the addition of a description of a PRA, and its results to the Part 50 licensing process would make that process a less attractive option for future applicants. And the PRA would create finality requirements similar to Part 52.

The NRC disagreed with the comment because the construction permit PRA would be preliminary. Just like the rest of the construction permit information.

The mere requirement to submit the results of a PRA would in no way reduce the flexibility of the construction permit holder to further develop the design during construction. The issues of use of PRA and finality are unrelated.

Another commenter stated that the review of the summary of the PRA and its results are not necessary for the NRC to come to a safety finding for

the construction permit. The commenter stated that instead of a PRA the NRC should require a "preliminary risk assessment."

The commenter also recommended the development of guidance that explains the expectations for the PRA in the construction permit phase for an advance plant. The commenter further recommended that non-power reactors should not be subject to the proposed requirement.

The NRC agreed in part with the comments. The NRC agrees that non-power reactors should not be subject to the requirement. And the staff further developed the proposed rule language in consideration of this comment.

The NRC disagrees with the argument that because a PRA is not necessary for its safety finding in the construction permit phase, a construction permit application should not include a summary and results of a PRA. One purpose of the proposed changes to encourage the use of PRA in the design phase in accordance with the Commission's policy statement on PRA.

Another purpose of the proposed change is to eliminate differences in the licensing processes that would result in different design basis

information for equivalent designs. Not addressing that issue would result in differing future regulatory outcomes and would not fulfill the Commission's direction for this rulemaking.

The NRC also disagrees with the comments that state that new or revised regulatory guidance is needed for advance plants because the existing guidance wouldn't cover the development of a PRA for an advance plant license under Part 50, as well as it currently does for one developed under Part 52.

Another commenter stated that the needed information to complete a PRA may not be available at the construction permit stage and requested that the NRC clarify what information the application needs with respect to PRA that would address the TMI related requirements in 10 CFR 50.34.

The commenter recommended that the NRC should only require the applicant to submit a summary and results of a PRA at the operating license phase. The NRC agreed in part with that comment.

If the construction permit and the operating license applicant submitted a summary and results of a PRA that the applicant developed in accordance with NRC's guidance on PRA, which is Reg Guide 1.200, then yes, many of the TMI items would be

met and that would obviate some of the specific analyses requirements in Section 10 CFR 50.34.

For that reason, and as discussed later and earlier, the NRC is also proposing to eliminate many TMI requirements with the understanding that instead the applicant would have developed a PRA in its results.

One commenter recommended that the use of PRA should complement the deterministic approach quoting language from the NRC's PRA policy statement. Commenter recommended that a construction permit applicant supply a preliminary risk analysis only and use deterministic analysis to demonstrate that the design meets regulatory requirements.

The NRC agrees in part with that comment. As previously stated, the NRC disagrees that the submittal of a summary and results of a PRA at a construction permit stage should be voluntary.

The NRC agrees that it's up to the applicant to determine the degree to which its uses PRA to demonstrate conformance with regulations. As before, future Part 50 applicants are free to use deterministic methods for this purpose.

Two comments requested that the NRC clarify how the new requirements for a Part 50 PRA

would work with existing requirements in Part 51 for applicants to develop severe accident mitigation alternatives, SAMDAs.

And if applicants should use such PRAs to support these alternatives. The NRC agrees in part with the comment. The NRC agrees that if the PRA was sufficient, of sufficient quality, an applicant could use it for that purpose.

However, the NRC disagrees that PRA should be the only methods to do so. And if appropriate, an applicant can use other methods to develop their SAMDAs.

One commenter asked the NRC to confirm that the PRA submitted at the construction permit stage would be based on preliminary design information and need not be complete as one submitted at DOL stage. As previously discussed, the NRC agrees with that comment.

One commenter disagreed with the NRC assessment of the cost and benefit of developing the PRA. They stated that the development of a preliminary PRA, at the construction permit stage, would cost the same as one done at the final stage.

The NRC agreed with that, with the comment, because the NRC expects that an applicant

would upgrade the PRA at the operating license stage, as Malcolm mentioned, prior to loading of fuel. The NRC added additional industry costs to the cost benefit calculation to account for this.

The proposed change would result in additional cost to industry to develop the PRA at the construction permit stage, but it would result in some cost savings for the NRC. So, I'm done. Any questions on that?

MR. BLEY: Yes. This is Dennis Bley.

MR. O'DRISCOLL: Okay.

MR. BLEY: This is probably more a question for Marty Stutzke. The more generalized approach to risk assessment that's being developed by the staff to support Part 53, essentially allows probabilistic risk assessment to be considered a range of analyses from some more detailed to some less detailed and more bounding.

And would that work apply now to Part 50 and 52 or does the language requiring a PRA kind of cut that off?

MR. STUTZKE: This is Marty Stutzke from NRR/DANU. The current plan to put in this alternative approach that you referred to, Dennis, would be to insert it into Part 53 as standalone language. In

other words, not referencing Parts 50 to 52.

MR. BLEY: Too bad, but that's okay. That's what I was afraid of.

CHAIR REMPE: So, this is Joy. Along those lines, I think at the very beginning of the day we talked about the objective, one of the objectives for Part 50, 52 alignment is to make sure that an equivalent level of safety would exist for the various options.

And it seems like that there should be a connect to 53 in this particular application. Again, I think disconnecting it may have some unattended adverse, or reduce sufficiency of the whole process.

MR. STUTZKE: Yes, I hear you talking. That decision was made yesterday afternoon by the Part 53 advisory committee. And we are still in the process of trying to figure out how we will revise Part 53 to incorporate the deterministic approach and the non-PRA approach as well.

MR. BLEY: These are in a, they're all approximations to, or complete PRA approaches. And where I think it would be helpful to everyone if staff could rethink this and see if there is a way to incorporate the same kind of ideas in Part 50 and Part 52 as are being developed for Part 53. I know they're

not there yet.

But if we miss this opportunity, then there is a, I guess just exceptions to go on or some new licensing processes sometime in the future, which would be a same to have to do.

MEMBER KIRCHNER: Dennis, this is Walt. The other thing, you just figured something along the lines, going back to our discussions about this for 53.

52, if I remember correctly, requires that you postulate a maximum hypothetical accident for purposes of generating the source term. Is that part of 52 language going to be changed or does the PRA then provide an alternate means for specifying what the MHA is that is called out for in 52?

MR. O'DRISCOLL: This is Jim O'Driscoll. We haven't changed any language outside of the PRA requirements, so the answer, I strongly believe, is no. Is there any others questions on that?

There's a hand up. Dennis, you have your hand? Oh, Dennis, your hand is up still.

MR. BLEY: Left over, sorry.

MR. O'DRISCOLL: Okay.

CHAIR BIER: I think we can move on. Thanks.

MR. O'DRISCOLL: All right. Moving on to Slide 43. So this is the risk-informed categorization of structure, systems and components item. We're on Slide 43.

The proposed rule would amend the regulations to allow applicants for a design certification, holders of a construction permit and holders of a combined license to make use of the regulation that allows for the voluntary risk categorization of structures, systems and components and to adopt alternatives to certain treatment requirements.

The purpose of this change is to implement the Commission's PRA policy which calls for the increased use of PRA and all regulatory matters. And you can look at the change on Reference Slide 105.

So we received five comments on this item. One commenter stated that a construction PRA would necessarily not have the quality for use in risk-informing licensing actions. The staff disagreed stating that it was entirely possible for an applicant to develop a detailed enough PRA at the construction permit stage to support those actions.

The staff acknowledges that such a PRA would require a significant amount of detail, above

what the staff expects to satisfy the proposed requirement to submit a PRA at the construction permit stage.

One commenter asked if NRC's past efforts to risk-informed applicant reviews has resulted in material benefits. The staff responded that, yes, the quality and safety focus of the NRC has improved.

One commenter stated that the NRC's PRA guidance is not sufficient to support use of a PRA for risk-informing structure, systems and components. The NRC staff disagreed and reiterated that the purpose of this change is to expand the use of the regulation to other entities and the current guidance is sufficient.

One commenter stated that the implementation of the existing regulation, which is 50.69, is an undue burden on certain categories of applicants, like those who do not reference a design certification that use the regulation. The staff disagreed saying the entire regulation remains voluntary so the NRC is not imposing any burden.

One commenter supported the proposed change stating that the ability of the use, 50.69, would result in some savings for them. The proposed change would result in no quantitative cost or benefit to the industry because it's voluntary.

And the NRC is unaware of any applications that would likely use the regulation in the near term. There is some cost to the NRC for work associated with the rulemaking.

And that is that. Does folks have any questions about 50.69?

MEMBER DIMITRIJEVIC: Yes. This is Vesna Dimitrijevic. I am thrilled with this. I am big supporter of using the 50.69 in the different spaces.

And I always thought that was like a diamond in the rough, you know, which was totally forgotten in that even, industry is just, you know, in the last couple of years are wakening to this opportunity.

And so, I am thrilled that this is on the discussion. However, when you listed the purposes of this, you know, the rulemaking effort, that this is not part of alignment on the clarity of something. I assume that this is part of the cost benefit study, right?

Something which we will have time to see reviews about, review costs, because it can have them concentrate on the important structure systems and components, right?

MR. O'DRISCOLL: Yes. That's a good

point. So in addition, one of the things we asked, and if you look back on SECY-19-0084, we also asked the public to, if there was any kind of, what we call transformative changes, they would like us to consider in the rulemaking.

So, I mean, another example would be the DC durations issue. I mean, I can say that's a lessons learned because we didn't get a lot of value out of those, that activity.

But it's also an innovation. It's a better way to focus our energy to those items that are important to safety.

MEMBER DIMITRIJEVIC: Okay. But there is, I have, know that, you know, we were just discussing this recently that, like you haven't adopted the PRA, we also have a silence on the credible accident, you know, efforts to be, you know, ten to minus five or the highest accidents.

We also have a have a silence of the, you know, so this is related to severe accident. We have silence on these source terms to use, to be EPZ because also nobody wants to make decision about numbers.

Well, when it comes to the 50.69, if you are, you know, if we are putting these in the, we are

giving opportunity for voluntary use, which I fully support, this my personal opinion, we will have to address this relativity of the, you know, importance.

And because we have already seen the price coming is very low. Core damage frequency or large release frequencies are changing the, whatever is in the 1.201 reg guide. I think is the one which relies on the how to rank the referenced NEI guides, how to rank the system structures and components.

And that rank has to decide is it relative or absolute. And if it's relative then it has to be changed when we are talking about very low core damage frequency.

So eventually we will not be able to escape addressing what's happening when we are talking about very low risk numbers. And this will have also to be addressed here. I just want to point this out.

So my other question is that, is this going to be considered risk-informed application or would that rules, which call for risk-informed application, which we were just discussing, going to be applicable to here?

Because this can apply to everything. Procurement and, I mean, in coolant operating plants it applies to many, many points of the life. If it

applies to procurement, and it can be used after the construction permits, remember, that's very evolutionary specs.

So my question is, would these be considered in risk-informed application and it will, other than providing the input for NRC reviewers, would the applicant be able to use these for other benefits, that this is sort of graded QA approach?

MR. O'DRISCOLL: Malcolm, do you want to answer that question?

MR. PATTERSON: Yes. This is Malcolm Patterson. And the answer is, yes, this is considered a risk-informed application and we see that the greatest benefit to the licensee would be to do it early enough to effect the procurement process as soon as possible.

So that's an incentive to them to develop a PRA of sufficient quality to support the safety classification.

MEMBER DIMITRIJEVIC: You know that then we are bringing the question again of the permanent PRA, which was the final PRA.

MR. PATTERSON: Well --

MEMBER DIMITRIJEVIC: You say, many of those questions are so interactive. You know that

sometimes, in some moments, somebody will have to start making some decisions of how those things should be addressed to the reg guides or something.

Because if you have a permanent PRA you're going to make important decisions, then there should be rules how is that addressed later. Okay.

MR. PATTERSON: The issue --

MEMBER DIMITRIJEVIC: -- want to, you know, I don't want to damage anything, I think this is a wonderful issue to serve. That's all.

MR. O'DRISCOLL: All right, well thank you. We'll move on to the next item unless there is other questions.

So this one is the final PRA topic. This is the, maintaining and upgrading the plant specific PRA.

So the proposed rule would make the current regulation that is applicable to those licensees that are required to have a PRA to apply to those licensed holders under Part 50 that are required to have a PRA. Basically it works with the new requirement to develop a PRA that I previously discussed.

The proposed changes would establish a more flexible schedule for planning and implementing

PRA upgrades for new reactors that are required to have a PRA. And you can see the changes on reference Slide 106. And then I'll go on.

We received four comments on this item. One commenter agreed that the regulation should require future construction permits and combined licensed holders to upgrade the plant specific PRA to cover all initiating events and modes where endorsed standards exist.

The commenter requested that the NRC clarify when a licensee or applicant should conduct as-built walkdowns. The staff responded that these walkdowns must be complete such that any significant changes to the PRA were identified through the walkdowns or incorporated into the PRA before fuel load.

The staff pointed out that the PRA need not meet NRC endorsed standards at the point of fuel load, but that the PRA covers all modes of operation where those standards exists. So in other words, completing peer reviews, benchmarking or other quality checks are not required prior to fuel load.

One comment requested an error, related to an error in nomenclature that the staff used in the regulatory basis, which the staff corrected in the

proposed rule.

And one commenter recommended that the NRC revise its regulation to conform to statements the staff made in the regulatory basis and in interim staff guidance DC/COL-ISG3. According to the commenter, those statements limit the modes and initiating events that the PRA must cover at operating licensing renewal stage to only those where endorsed consensus standards on PRA exist.

The staff disagrees with this comment. The staff maintains that the current regulation is correct. That is, that a licensed, that at license renewal the PRA models must address all initiating events in operating modes.

The staff expects that by the time licenses are renewed, the PRA technology will be sufficiently mature to adequately address all modes and initiating events, whether or not those modes and events have NRC endorsed standards or not.

One commenter asked if this proposed item maintaining and upgrading the PRA is predicated on another proposed item requiring the use of the PRA and design. And the answer to that is yes.

Other than rulemaking costs to the NRC, the sum of the three changes, on the PRA topic, is

that it is slightly cost beneficial to the NRC but would incur a cost to industry. The cost for future Part 50 applicants to develop PRA, which is B1, the first item we talked about, does not offset the savings realized from pure exemption requests associated with PRA upgrade scheduling.

So to summarize the PRA topic, the staff is recommending rulemaking with guidance changes to address these items. The regulatory changes include Sections 50.34, 50.71 and 50.69. And we're going to also revise several regs related to the PRA.

I had mentioned these before but I'll just reiterate. Reg Guide 1.174 we're going to change. Reg Guide 1.187, Reg Guide 1.200. And then we're also going to effect and change the SRP Section 19.0 and 19.1.

Does anybody have any questions on PRA upgrades?

MEMBER DIMITRIJEVIC: Can you just repeat, you said something which was strange to me about the, some of the question was related, was this maintenance related to using PRA design or something? What was that?

MR. O'DRISCOLL: Well, I think it's more of, it's not a, it's just a straightforward question

whether the items are linked in any way. And yes.

I mean, if we are going to go with B1, which is requiring all licensees to have a, you know, future part licensees to have a PRA then, yes, we also expect it to be maintained and upgraded. So in other words, we're not just, it works together.

MEMBER DIMITRIJEVIC: Well, you have to maintenance the PRAs, the design is already completed so, I mean, that's what I find is a little strange. Because maintaining PRA doesn't have anything to do with using PRA, it has something to do with the need for PRA.

MR. O'DRISCOLL: Malcolm, do you want to comment on that?

MR. PATTERSON: Okay.

MR. O'DRISCOLL: Go ahead.

MR. PATTERSON: This is Malcolm Patterson. Well, the need to maintain the PRA is simply the need to make sure that the PRA continues to reflect the as-built plant. And as changes to the plant are made, modifications occur over plant life, there will be slight changes.

There will also be updates to failure rates of components. New data will be collected. And that kind of updating is part of maintaining the PRA.

But upgrading would be required if the licensee decides to change the method of performing the PRA or if the NRC endorses a consensus standard that covers a new mode or initiating event.

So there is this ongoing activity throughout plant life. That's all this regulation is intended to address. It's to make sure that plants that have a PRA keep it effective.

MEMBER DIMITRIJEVIC: All right. Okay.

MR. O'DRISCOLL: All right. Is there any other questions on PRA? All right.

CHAIR REMPE: It's not really on PRA, I've just been thinking about what we talked about earlier this morning with the updates to the reg guide for, it will be like three or four sets possibly for an individual reg guide with changes for this effort, the EPZ and the Part 53.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: Okay. So theoretically, it goes up to the Commissioners, and have you thought about how you're going to avoid a situation where they might approve changes that are 180 degrees apart on an individual reg guide?

MR. O'DRISCOLL: So that's why we exist in rulemaking. This is, all, these rulemakings go

through our group rulemaking center of expertise.

We have project managers. And it's our job, obviously, to assist the staff in keeping these, making sure there is some harmony here. I mean, it's obviously, it's also the responsibility of the program offices too, but we back each other up. And what happens is you get SRMs, and SRMs require, which are the direction from the Commission.

The Commission, like you said, Joy, they may say something new or different than what we plan and then somehow we have to implement that and understand what the ripple effect is on other activities. It's not --

CHAIR REMPE: Okay.

MR. O'DRISCOLL: -- I think it's a, is it a set? It's not like a set rigid type process, it requires a lot of coordination.

CHAIR REMPE: So, if you send up something that, hopefully that won't happen, but if you had a particular reg guide where the changes were different from two different rulemaking efforts and the Commission came back and didn't hypothetically approve both of these changes, your office would just iterate with the Commissioners and point out you hadn't excepted this to occur and --

MR. O'DRISCOLL: Yes.

CHAIR REMPE: -- you'll have to respond then.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: Okay.

CHAIR BIER: Also, Joy, I'm guessing that this would usually happen sequentially. So that if they approve one then any other ones that would be inconsistent might be iterated before they go up for Commission approval?

CHAIR REMPE: You would hope so, but I think the Part 53 and Part 52 is going to be going up at the same time, from what I heard on the schedule. Isn't that true, Jim?

MR. O'DRISCOLL: Well, we're going to final in the year 2024. And I understand that Part 53 is being accelerated. So I believe it's not exactly the same but it's getting, they're getting close together in schedule.

CHAIR REMPE: Anyway, it's just something that I was thinking about. But anyway, let's go on to the next topic I guess --

MR. O'DRISCOLL: Okay.

CHAIR REMPE: -- unless there is another question.

MR. O'DRISCOLL: Sure.

CHAIR REMPE: I apologize.

MR. O'DRISCOLL: And the thing is, is too, just to add is, this happens, there is a number of activities going on but it is, really the pace of these changes and things coming down, this is such that, at least so far we have not been able to address forthrightly. Put it that way.

So I'm going to move on. Next slide. Three Mile Island. Okay, so we're on Slide 45.

Proposed rule would revise 10 CFR 50.34 to require new Part 50 applicants to address TMI items as they relate to their design. Also, the proposed rule would revise the requirements to eliminate those that are now redundant with more recently issued regulations and those that do not apply any more due to changes in technology.

Along with these changes, the rule amends the remaining requirements to make them more technology neutral. And these changes you can see on Slides 107 through 113.

The staff proposes to revise regulations in 50.34, along with the standard review plan. In addition, the FR, in the federal register notice, we've asked for comments about impacts of the Three

Mile Island requirements on non-light water reactor applicants, but the NRC should consider in the scope of this rule.

The response to this comment resulted in changes to the remaining requirements to make them more technology neutral. The NRC received three comments on this item, and they were generally supportive.

One comment provided specifics on what the staff should propose to be changed in 50.34. Many of the suggestions in that comment are reflected in the proposed rule language.

The proposed changes are cost beneficial to the NRC and industry because the regulations would be easier to understand and would eliminate the need to address and review redundant and obsolete requirements. Any questions?

CHAIR REMPE: Sure. I'd thought I'd ask. I'm sorry.

MR. O'DRISCOLL: Go ahead.

CHAIR REMPE: One of them is just my understanding on this safety parameter display system. And you made a change that is doesn't have to be an independent consult.

MR. O'DRISCOLL: Yes.

CHAIR REMPE: Isn't there also still a separate location away from the control room that has to show similar types of information, and has that changed at all?

MR. O'DRISCOLL: I'm not sure if we have Molly Keefe-Forsyth online, but basically, I believe the answer is no. The issue was, as I recall, the term console was causing us to generate, was causing to generate unnecessary regulatory steps because applicants did not plan to have a standalone console.

If you can imagine a piece of equipment. And in other words, they were proposing a system where you have multifunction displays and so long as, that essentially still satisfies the intent of the regulation so we just simply removed the term console so that folks wouldn't have to request an exemption simply because they don't plan to put, build a physical console for this item. Does that help?

CHAIR REMPE: Yes, that was my understanding. It's just I was curious, I know they have this other independent location and I just was curious if there were any effects on it. But kind of a side question.

The bigger question I had on this was the fact that you've moved some BWR and PWR specific

requirements because you said, hey, they're duplicated in another location. And that's great.

But it seems like rather than assuming that simplification this would have been a good opportunity to try and make things more performance-based. It's another location in the regulation is why you removed the duplication information.

But it just seemed like, and I actually saw that was a comment, I believe from NEI and NuScale. And I guess I'm curious why the staff didn't try and take that opportunity.

MR. O'DRISCOLL: Well, I guess the answer to that is, well, there is, we did a check to make sure each one was or was not covered by another regulation. And if it was, we took it out.

But we also, again, made the assumption, or made the understanding, that this whole rule would be approved and we, and these changes to the TMI items also assume that the other item, which is requiring a PRA to be developed at the design phase, would also be done. And that took out a lot of very specific analyses requirements. Deterministic analyses.

So in that way I would submit that we are risk-informing this whole licensing process because we're requiring the tools by which applicants and

licensees can based their safety findings on risk-based information. So they don't have to give us a whole bunch of separate analyses anymore.

They have this PRA and it covers a whole bunch of stuff. And if the frequency is low it's a very strong indicator that, hey, let's focus on this, on this group of SSCs because that's what the PRA says. And if the PRA doesn't say that then maybe there is a good question of why we're focusing on that.

So I think in some way, in a large way, because we are going to require the changes in the B Section, the PRA section, we can, we are fixing this TMI stuff to the degree which we can. I mean, there is a couple of things.

One example is the human performance item where we kept, because we don't have many other, it's not very big regulatory footprint on human performance to begin with, and when, we were very careful to keep certain items in there because they still serve as the only, or the, basically the regulatory hook, excuse the term, for certain regulatory areas that we have. Does that help?

CHAIR REMPE: Yes. Thank you.

MR. O'DRISCOLL: Sure. Okay, any other

questions on TMI? All right. This is lunch time, which is not.

CHAIR BIER: Yes. We probably need a break even if it's not a lunch break.

MR. O'DRISCOLL: Right. Okay.

CHAIR BIER: Yes. So again, ten minutes, 15 minutes? Does anybody have anything they need to do?

Always 15 anyways. Okay.

All right. So, 15 minute break and see everybody back then. Thanks.

(Whereupon, the above-entitled matter went off the record at 2:54 p.m. and resumed at 3:10 p.m.)

CHAIR BIER: We are missing one or two people but I think we may as well charge ahead. Thank you, Jim.

MR. O'DRISCOLL: All right, thank you, Chairman Bier. We're on Slide 48, emergency planning. The Staff is proposing a variety of rulemaking and guidance changes to address several issues related to emergency planning.

These are the emergency plan change process, emergency preparedness exercises, significant impediments to the development of emergency plans, requirements for off-site contacts arrangements and

certification.

The Staff is recommending guidance changes only for the emergency plan change process issue, rulemaking only for off-site contacts, and rulemaking with guidance changes for the other two items.

In addition, we had a specific request for comment and question in the regulatory basis Federal Register notice asking what is the appropriate distance within which to perform the siting analysis?

We did not get any responses to this question from the public. So, I'll provide some more detail about each of these. And you can see these changes in Reference Slide 114 through 118.

Next slide, we're in Slide 49. The proposed rule would amend the regulations to clarify that one provision in its regulation, the provision to follow and maintain the effectiveness of its emergency plan is not applicable until the Commission's 51203G finding.

The NRC did not receive any comment on this item as it was described in the regulatory basis. Other than rulemaking costs to the NRC, the Staff assessed the cost benefit of this item qualitatively.

There is no overall cost benefit for the sum of the emergency planning items for both the NRC

and the industry.

Any questions on this?

CHAIR REMPE: I'm not sure, maybe I should have mentioned this in the prior slide or maybe it goes in the next slide, but there's a change about if you bring up another module on the side.

And they delay doing an emergency planning exercise, and I was wondering, for example, the two new modules at Vogtle or quite different than the existing plants.

If you have a 12-module plant and you bring up 2 of them and then you bring up a 3rd, there's more modules that are going to be there. The source term is higher.

I'm just wondering if you're considering differences in this change of the added complexity of another module? Does that make sense?

MR. O'DRISCOLL: I think it does. We have an item on emergency plan preparedness exercises where we go into that, that's in Slide 51. And I see that we have got some folks from emergency planning group online here that would be able to answer questions.

So, I think we'll just, if you don't mind, proceed?

CHAIR REMPE: Sure, I wasn't sure where to

bring it up.

MR. O'DRISCOLL: It's going to be right now.

Emergency preparedness exercises, we're in Slide 50, the proposed rule would revise Part 50 Appendix E, emergency planning, to clarify and revise the requirements for subsequent exercises at similar facilities and exercise planning.

The changes align the requirements of Parts 50 and 52 in this area. Specifically, the proposed changes for this item would eliminate the need for subsequent exercises at a multi-unit site when the Applicant meets certain criteria.

The proposed rule would align the start of the eight-year emergency preparedness exercise cycle to establish a common starting point both for Part 50 and Parts 52 sites.

The changes would also remove some provisions that are now obsolete. The NRC did not receive any comments on this item as it was described in the regulatory basis and this item was estimated to be cost beneficial for both the industry and the NRC.

So, with that, I will ask if there's anybody on the line from Staff who would like to explain a little bit more about what that criteria is

that must be met in order to not have multiple subsequent exercises.

Do we have a hand up?

MR. FISKE: This is Jonathan Fiske.

MR. O'DRISCOLL: Hey, John, go ahead.

MR. FISKE: I can address that I believe. To your question, I think that's actually a good way to consider it.

If a small modular reactor site had two reactors up and running and they were to add an additional third or fourth or fifth reactor, in doing so they would consider in their application whether or not there are any emergency preparedness impacts.

And they provide us an analysis on which we'd make an ultimate judgment.

But say they were going from two to six and that changed their licensing basis such that they went from a no EPZ to an EPZ, or I'm sorry, a site boundary EPZ to something larger, in that case they wouldn't be able to show the emergency preparedness hasn't been impacted and they would have to run the additional exercise for the new reactor.

MEMBER HALNON: This is Greg. There's also provisions about using the same facilities, the same emergency Staff, those types of things too.

So, the regulation looks at whether or not you're substantially using the same emergency plan/organization and facility as well.

But if you had to go to another EOF or had to expand out to a different facility, that would take you away from that.

CHAIR REMPE: So, they will carefully assess additional equipment or --

MEMBER HALNON: It looks like it. It looked like it to me that they had covered those bases.

CHAIR REMPE: Okay.

MR. O'DRISCOLL: Any other questions on this item before I move on to the next emergency planning topic?

There's more on Slide 51, significant impediments to development of emergency plans.

The proposed rule would clarify the purpose of the NRC's consultation with the Federal Emergency Management Agency, FEMA, and distinguish the siting requirements for emergency planning considerations.

The NRC received one comment on this item, the comment made several recommendations about significant impediments to emergency plans. The Staff

agreed with this comment and is proposing changes in Regulatory Guide 4.7 to address the comment.

As previously discussed, this item is cost beneficial to both the NRC and the industry. Does anybody have questions on that?

MEMBER HALNON: This is Greg. I don't know how cost beneficial it is.

To me, it looked like you were just taking the ambiguity out of the FEMA review during the siting process versus during the emergency plan review process.

Is that accurate?

MR. FISKE: That's an accurate statement.

MEMBER HALNON: Is there ever a time when the siting review would be done in concert with the 50.47 review by FEMA at the same time?

MR. FISKE: If the licensee identified significant impediments and as part of their ESP application were to propose emergency plans that mitigated those or means to mitigate those significant impediments, then the NRC would consult FEMA to determine if their emergency plans in that case adequately mitigate that impediment.

MEMBER HALNON: So, it's not just a one and done? They would be going back and forth a little

bit, is that right?

MR. FISKE: Correct.

MEMBER HALNON: The other question is with 50.160 coming out and if the rule language stays the way it is, they're eliminating the FEMA review for emergency plans when the EPZ is within the site boundary.

Is there any effect with what you're doing here that could cause a conflict there or change in guidance or anything else in the 50.160 space?

MR. FISKE: I can't speak with 100 certainty but I strongly believe there's no conflicts there.

MEMBER HALNON: We'll be monitoring it since it's a new rule and we're working through it but I just want to make sure those two efforts are connected in some respects, and it sounds like you are so that's good.

MR. O'DRISCOLL: Any further questions on this slide? We'll move on to Slide 52. So, this one is on off-site contacts, arrangements, and certifications.

The proposed rule which makes changes to Part 52, that's to clarify, under what circumstances the information is required in the site-specific

safety analysis report regarding contacts, arrangements, and certifications with federal state and local governments.

The NRC received one comment on this item from the public that was related to an editorial matter in the regulatory basis. Other than the rulemaking cost to the NRC, the cost benefit of this item is qualitative.

Any questions on this?

MEMBER HALNON: This is Greg. why wouldn't you have these contacts and arrangements in the emergency plan rather than the safety analysis report? Or is it the same thing?

MR. FISKE: This is Jonathan Fiske again. It's similar, it comes down to when you come in for your early site protecting you can come in for various levels of finality that your EFP grants you going into the COL.

So, in cases where a licensee may come in with an ESP seeking finality on portions of their emergency plan, we have to know they have those contacts and arrangements in place with agreements or potentially compensatory measures that the utility takes in lieu of agreements with off sites.

But the basis of the change is where in

the past, the current regulations, they tied some of the various ESPs together with the requirements.

And at different levels of finality being sought in ESP, we don't need the same amount of arrangements and contacts to be made at that stage.

For example, if someone's coming in for just an ESP only and not looking for any finality on emergency plans as part of the ESP, then we're...not eliminating but we're changing the requirement that stated they had to have all of their contacts and arrangements in place at that time.

So, we're separating it out by the level of finality they're seeking to the appropriate level of contacts and arrangements.

MEMBER HALNON: So, down the road it's going to be in duplicity with the emergency plan that causes two different documents to be kept up to date with the same information?

MR. FISKE: No. I guess to answer your original question, it would become part of the site safety analysis report.

MEMBER HALNON: I just wanted to make sure you weren't saying it was cost beneficial but are we duplicating a requirement in one place that's already someplace else?

But I'll take your word for it that it's all part of the safety analysis report.

MR. O'DRISCOLL: Any other questions on emergency planning? I'll move on to the next topic which is operators licensing, we're at Slide 53.

The Staff is proposing a variety of rulemaking and guidance changes to address several issues related to operators, licensing, and Part 55 of the corresponding NUREG.

And you can look at the back up or the reference Slides 119 to 122 to see those changes. These items address an inadequacy in the regulations with respect to operator training for operators at plants undergoing construction, that is the coal plants.

Criteria for simulation facilities requirements, for plant walk through and continuing training and I'll provide some more detail about these. Next slide, we're on Slide 54, criteria for simulation facilities.

The NRC is proposing to amend Section 5546C2(I), which you can look at in Reference Slide 120 to allow Applicants operator licenses to do the control manipulations required by Section 5531A5 on a simulation facility that replicates the intended

initial core load for the nuclear power reference plant for which an operator's license is being sought when the license is sought before initial fuel load into the reactor.

The NRC is also proposing to amend a definition of reference plant in Section 55.4 and you can see that on Reference Slide 119 to state that the reference plant may or may not be actually constructed.

The definition of, quote, plant reference simulator, unquote, also would be amended to state that for a nuclear power-plant that is being constructed, plant reference simulator means a simulator modeling the systems of the reference plant with which the operator will interface in the control room.

These changes would eliminate the need for licensees to ask for Commission approval of a simulation facility at a reactor under construction when that simulation facility meets the criteria of Section 5546(c) to be used for the administration of the operating test and to meet experience requirements in Section 5531(a)5.

The NRC proposes to revise Reg Guide 1.149, which is nuclear power-plant simulation

facilities for using operator training, license examinations, and Applicant experience requirements to include the revised definitions of criteria.

The NRC did not receive any public comments on this item as it was discussed in the regulatory basis associated with the proposed rule.

This rule change is cost beneficial because it would reduce the administrative burden on the licensees and the NRC associated with the processing of requests for Commission approval of the simulation facility.

Any questions on that?

I'm going to move on. We're on Slide 55, plant walkthrough.

The NRC is proposing to amend plant walkthrough requirements in Section 5545 operating tests to give facility licensees of new reactors under construction the option of using suitable alternatives to the in-plant testing while the plant is under construction.

You can see these changes in Reference Slide 120.

The plant walkthrough was the subject of exemption requests for Vogtle Unit 3 and D.C. Summer Unit 2 and the NRC approved the use of discussion and

performance validation methods in combination with plant layout diagrams, maps, equipment diagrams, pictures, and mock-ups while the plant was under construction.

The licensee must construct a substantial number of plant systems before doing a plant walkthrough during the NRC initial licensing examinations so that the scheduling of the plant walkthrough portion of the operating test is not predictable.

Administration of the NRC initial licensing exams would need to occur relatively close to the time of the scheduled day for fuel loading at a coal plant.

Delaying the administration of the NRC operating tests, which includes an in-plant job performance measures until plant construction is complete presents unnecessary challenges for licensees and the NRC.

The rule change would eliminate the need to request exemptions and promote a more efficient regulatory process.

NUREG 1021 Section ES-3.7, which is titled alternatives for in-plant job performance measures at plants under construction currently provides guidance

that would be applicable to the proposed rule.

And the NRC anticipates only minor edits for this rule change. The NRC did not receive any public comments on this item as it was discussed in the regulatory basis associated with the proposed rule.

And this rule change is also cost beneficial. Any questions on plant walkthrough?

MEMBER HALNON: This is Greg.

When I went through my first plant walkthrough for my SRO, we stood in one spot, which was a control room and I got grilled for four hours. Why are we giving the licensees the ability to just not do that?

MR. O'DRISCOLL: Not do what?

MEMBER HALNON: Not to just do a graded approach as opposed to eliminating it. In other words, there's always something, even if you go to another plant that's similar or you go to the simulator that we talked about earlier.

There's always something you can take somebody out to test their level of knowledge and how deeply they've studied.

MR. O'DRISCOLL: I don't have the answer to that. I'm seeing if there's anybody on the phone

or on the line from the Staff that can take that question.

MEMBER HALNON: It's probably a question that's unanswerable. The first question should be answerable, it's who determines the suitability of the alternative?

MR. O'DRISCOLL: You're asking is it the NRC versus the Applicant?

MEMBER HALNON: Yes.

MR. O'DRISCOLL: I will get back to you on that. I highly believe it's the NRC however I'd rather than have the technical staff answer that question.

MEMBER HALNON: I can see if it's a waiver or exemption request of some type. But if you're giving them the option in the regulation to go one way or the other, what entity actually decides that?

That's one question. And of course the second question, the unanswerable one is why wouldn't you do a graded approach to it to do one that is substantially part of the SAP process with whatever is there?

What can you do? Even if it's just standing in the middle of the simulator for four hours.

MR. O'DRISCOLL: Lauren Nist, it looks like she's on the line and she is the tech staff member who can speak to this. Lauren, can you answer these questions? Or we can repeat them for you.

MS. NIST: This is Lauren Nist. Jim, I just popped in. Stacy asked me to come into this meeting, I apologize I have a conflict today as well with another activity.

Could you repeat the question, please?

MR. O'DRISCOLL: The question has to do with the plant

walkthrough item and to just paraphrase, the question is we're allowing alternatives to doing a physical walkthrough.

And one of the ACRS Members mentioned when he was an SRO, they didn't go on a walkthrough, they just sat in the control room and got grilled.

And the question is why aren't we allowing the licensees to make that call, to say if they want to go out in the plant and go walk around or if they want to just stay there.

And who makes the call of whether that is appropriate to do or not? I think that's the question but please jump in there.

MEMBER HALNON: This is Greg Halnon. Two

questions, one is who determines the suitability of the alternative?

And the second question is, is it considered a graded approach to the walkthrough with whatever substantial pieces of the plan are there with the purpose of testing the level of knowledge and the level of depth of study that the person has?

MS. NIST: I heard level of study?

MEMBER HALNON: The depth of study. The walkthrough, one of the purposes is to put the person under stress and see how well they've studied and see how deep they go.

MS. NIST: So, let me clarify if I may. What you're referring to is a literally walkthrough of the plant, is that right?

MEMBER HALNON: Not necessarily. Some people may call them oral boards, some people may call them -- I called mine a grilling. I stood in one spot for four hours --

MS. NIST: That doesn't happen anymore because there was a lot more structure that was added to the plant walkthrough portion of the operating test and the way it is tested now is as discussed in current vision of NUREG 1021, operating licensing exam standards, the current version in place being Rev 11.

It's three in-plant job performance measures and they're part of a set of total job performance measures that test systems, knowledge and abilities as well as administrative-related knowledge and abilities.

The plant walkthrough has to test knowledge of tasks that are safety-significant.

So, what that means is they have to be related to a knowledge and ability statement from the knowledge and ability catalog for that technology that has a certain threshold of importance rating associated with it.

And they have to demonstrate the ability to perform that task.

So, it happens in the plant but it is a discreet set of tasks and there is a script that every examiner has to ensure that one person doesn't have four-hour grilling and another person has a one-hour tell me about how you're doing today and let's go talk about the feedwater.

MEMBER HALNON: I got that because the second time I got an SRO I went for the job on those measures and that was difficult too.

But so I understand that piece of it but there's always something in the plan, there's always

some task you can do and if you can't do it physically, you can simulate it.

And especially when you're just talking about closing a valve in clockwise versus counterclockwise and whatever you want to do there.

But you're testing the physical knowledge ability of the person. So, there's always something, even if it's, like I said, on a non-mock-up.

MS. NIST: But the key here being, per these words in 5545 that we are proposing to amend, you would not be allowed to do, say, a job performance measure related to demonstrating your ability to operate components from the remote safe shutdown panel at a mock-up of that same panel.

Because it's not in the plant. That's why we want to do the amendment to allow, as we put in the proposed rule language, suitable alternatives, which would have and currently do have guidance in the NUREG for what a suitable alternative would be.

And that would include what you just said, using a mock-up of a valve, using a mock-up of a panel, something to that effect that tests that same skill.

Do they have the skill and you can test that through something other than physically being in

the plant?

MEMBER HALNON: That helps. The 1021 does have criteria for what's suitable versus not so it's not just up to the licensee to determine what's suitable.

MS. NIST: That's correct, we have proposed guidance for that. A lot of this was based on how this part of the operating test was given at Vogtle 3 and 4 while they were under construction and there was nothing except concrete.

So, there's nothing except the training facility.

So, they worked with the examiners in the region there to figure out when they did their random systematic selection of tasks for the exam, how they would test these knowledge and abilities that included use of mock-ups, that included other things like procedure talk-throughs and use of maps and other diagrams to be able to demonstrate those tasks.

MEMBER HALNON: That's helpful and answered the question, I appreciate it.

MEMBER BALLINGER: This is Ron Ballinger.

I may be a little bit out of my league here but when I took an operator exam it was a lot of different, it was in the Navy.

But does this rule language allow, in effect, a little bit of watering down of the process?

MS. NIST: Can you explain to me what you would consider is being watered down?

MEMBER BALLINGER: Make it, for lack of a better word, easier for an operator or an Applicant to qualify somebody with lower levels of standards, not being in the real plant.

CHAIR BIER: And even just greater predictability of what they're going to be asked.

MS. NIST: These were all things that we considered and part of granting the exemption, because we had the same questions. Well, let's say they had had something in the plant.

At the state that we started from, there wasn't anything in the plant, there wasn't a plant, like I said, it was concrete. So, what could be done? Yes, was there some amount of limit, just practical limits, on what could be done?

Maybe, but I'll tell you that my recollection and I did that review and wrote a large part of the input of those approvals for those exemptions was you have to show us licensees that you can have a sufficient scope of tasks that can reasonably be done using these methods.

I'm just going to use that example here, it's probably not very realistic but I think it will get the message across that if, say, you constructed the plant and it only had one room so far, and that room had important plant components in it, it would probably be obvious that you could probably expect to have that task on as part of your plant walkthrough.

So, that was not obviously a situation that we wanted to facilitate.

So, they had demonstrate that they had enough tasks to be able to select from that you could reasonably have reasonable assurance that they wouldn't have necessarily been able to predict what was coming their way and have some kind of advantage on that in the testing process.

As far as watering it down and making it easier, one of the things we did in our group when we were thinking about this for these exemptions, was we tried ourselves to walk through, okay, if I was going to give myself or prepare a set of implant JPMs and I don't have the plant for that, I think that's actually more difficult.

So, some of our focus on evaluating that was is it too difficult? Because ultimately, per statute we have to provide uniform conditions for the

licensing of operators.

I want to have a fair and equitable examination process, so we don't want to allow something to happen. We can't legally allow something to happen that's going to result in an inequitable, unfair process.

So, you can't make something too impossible or too difficult.

So, it had to be something you would reasonably expect them to be able to demonstrate the knowledge they needed to demonstrate that they would successfully be able to do that task in the plant if they could using the tools they had.

And it is a challenge, there was no plant to walk through. There's no queues around you. You have paper.

If you're going to explain to an examiner, well, how would I get from the control room to where the feedwater pumps are or where some other plant component is.

If you've been able to go through the plant and walk around, you know that plant, you know how to get from Point A to Point B. Being able to orient yourself on some diagrams and explain how you would get there, that's a little bit different, maybe

not as straightforward.

Also, trying to explain to someone walking through a procedure, say the procedure is part of this job performance measure on your test has five steps. If you're in the plant, you can look at the component, you can see all the valves that are there.

If it has a twin component next to it and this JPM is telling you make sure you align this valve in this position, maybe you've forgotten if it's some kind of special valve what that position needs to be.

Maybe you just look over to the corner where its twin is and say, oh, that's the one that's running or open right now and needs to look like this. And you say, well, I put the handle, I twist it 90 degrees and it would be open or whatever that is.

So, there is differences but at the end of the day it has to be something that you can reasonably expect them to do without too much difficulty and it has to still meet the level of difficulty requirements for the task itself that we would maintain for these alternatives.

MR. BLEY: Lauren, this is Dennis Bley. Back in the 1960s and 1970s, which you might not remember, every plant that was built --

MEMBER BROWN: What do you mean might?

MS. NIST: I definitely don't remember that.

MR. BLEY: Every plant that was built had a physical model built. They all had modeling staff before you built it and you made sure everything would fit. We've improved now, we have all that on computers.

But isn't there the equivalent of a whole system mock-up on the computer for every design where people could walk you through where they're going to go in the plant?

(Simultaneous speaking.)

MS. NIST: That's a good question, and I can only speak to my own -- obviously, I don't know if this is true for the industry as a whole but that could potentially be something a vendor might have or a tool that someone in the design or design architecture program might have.

I think what you're talking about I kind of am envisioning a virtual reality kind of diagram.

MR. BLEY: Essentially, but, it was the licensee's, it was the utility company who built these physical models and the ones I remember were probably 20 to 30 feet tall.

It was an all glued together mock-up of

the thing and I can't imagine you can't access something similar to that for the design on the current --

MS. NIST: I have never seen a full-scale mock-up of plant corridors, plant rooms. I've certainly seen mock-ups, for training purposes, certain plants or components or panels but I can't say I've seen what you're describing.

MR. BLEY: Those physical models were very useful for doing that sort of thing before the plant was built.

They built them essentially to make sure they could build the plant and I know now you do that on the computer, but that you can't see essentially a mock-up of the whole thing.

It's disappointing, I just assumed you could do that.

MS. NIST: Some alternatives that have been proposed would include a virtual reality type of tool for doing just that but I haven't seen anyone actually implement that yet.

MEMBER BROWN: Can I ask a question? I finally understood what you all were talking about. How do you train in a new plant when it's being built? And the PWR is kind of a PWR.

Arrangements are different in different facilities, the same thing with oil and water reactor. There's never been any thought to a cooperation amongst the plants or sending new people around for familiarity at least with basic operations?

The Navy did that, we sent guys to prototypes and they went out to submarines that were totally different in terms of their arrangement in many, probably most, circumstances.

If you look at the various classes where valve pumps and stuff, they were in different places that you had to go to operate them, they're obviously more compact than the commercial plants are.

And I know two other section heads and myself, it was like sucking blood out of rocks at the Navy to actually build simulators. I don't know how many times I was thrown out of an Admiral's office.

Rickover was not happy when we walked in and suggested this. This was the early 1980s and the cost of running nine prototypes on getting work done. We then combined the prototype simulators with submarines.

We took out a service as a training platform, which I think some of the members here have seen that. And they're different from the ships they

go to.

We'd send guys that had submarine training that went to the enterprise or the Nimitz class or a cruiser.

And they did requalifications when they got it.

MEMBER HALNON: Those things do happen but it's usually individual initiatives between plant managers or training managers or something like that. There's no design program to do that.

Recognize the walkthrough that Lauren explained, there's an examiner that gives you a scenario.

And your job is to locate the procedure, understand the procedure, perform it to the standards you have in your conduct of operation, find the components, and then simulate typically how you would rotate the valve, how you would start the pump, how you would -- whatever completion you needed to do that within the standards of, again, your conduct of operation.

There's only one of those things that I just mentioned that you can't do if the plant is not constructed and that's locate the equipment. The other stuff is still able to be done.

So, I have to go back and look at 1021 to see what are the suitable alternatives, if it includes standing there and saying, okay, go locate the right procedure and bring it back to me, tell me how you're going to do these steps.

Are you going to read, are you going to sign, are you going to turn it counterclockwise or clockwise, are you going to push this button versus that button, are you going to energize it first, how are you going to do all this stuff?

Again, the other thing you can't do is physically walk out to the plant. I'll look at 1021 and look at the --

MS. NIST: When you look at it, you'll need to look at the draft guidance that goes with this proposed rulemaking because --

MEMBER HALNON: We had that in our folder. There's a couple versions of it but I'll take a look and see.

CHAIR REMPE: Actually, that may be something we want to request to see because the draft guidance markup has not been provided.

MEMBER HALNON: It's in the December Subcommittee.

CHAIR REMPE: So, it's not changing for

this draft guidance or rulemaking now?

CHAIR BIER: Joy, I think it may have been provided unofficially.

MR. O'DRISCOLL: Lauren, I don't believe it has changed. Correct? Are you still there from the last time?

Yes, sorry, the excerpts for NUREG 1021, upon request we can get that to the ACRS but what I heard was that there was a previous ACRS engagement on that NUREG that basically covers most of what we're talking about here as far as regulatory changes.

MEMBER HALNON: I'm sorry, let me correct what I said, it's not in the Subcommittee, it's in the reference material in Part 50 and 52.

CHAIR REMPE: What I need to know is since the previous engagement have any significant changes been made to the guidance and if so, perhaps we should be given them for the 18th meeting?

MR. O'DRISCOLL: Okay.

CHAIR REMPE: Is that clear? I'm not getting a clear answer I think from the Staff where significant change is made.

MS. NIST: I don't know what you previously had, I'm sorry I just don't know that.

CHAIR REMPE: So, maybe find out and

follow up with us later, Jim.

MR. O'DRISCOLL: Will do.

CHAIR REMPE: Thank you.

MR. O'DRISCOLL: Any more questions on plant walkthrough before I go to continuing training? I'll go to this next topic. This is the issue of continuing training for operator license Applicants.

So, we're on Slide 56. The NRC is proposing to establish a new requirement facility licenses at coal plants to maintain the knowledge, skills, and abilities of operator license Applicants who have successfully completed the NRC initial licensing examination.

It's possible that months or years may pass after an Applicant for an operator's license passes the NRC examination before they can complete all of the experience requirements for an operator's license due to, for example, construction schedule.

The current regulatory framework would foster a decline in Applicant's level of knowledge, skills, and ability to safely operate the plant. The Staff is proposing to amend Section 5531A4, which you can see the change in Reference Slide 122 to add a new paragraph that would apply.

When an operator license application is

submitted before the facility licensee is required to have the requalification program described in Section 5559. In effect, as described under Section 5054(i)-1.

In these cases, the application must describe how the Applicant's knowledge, skills, and abilities will be maintained after the Applicant passes the written examination and operating tests but before participation as a licensed operator in the requalification program described in Section 5559.

The NRC also intends to add a new subsection to NUREG 1021 Section ES-2.2 to include guidance for acceptance ways to maintain the Applicant's knowledge, skills, and abilities to comply with the new rule.

The proposed amendments to Section 5531A4 would apply also to non-power facilities that are under construction because similar circumstances may exist for non-power facilities when they are under construction.

The Staff received one public comment on this issue.

The comments express concern about how licensees would comply with the planned amendment to Section 5531A4 and recommended the NRC provide more

specific guidance about what is needed to ensure the knowledge, skills, and abilities be maintained.

To address this comment, the proposed rule includes a provision explaining that the NRC will accept a statement that the Applicant will participate in a Commission-approved continuing training program developed using a systems approach to training in lieu of a description of how the Applicant's skills, knowledge, and abilities will be maintained.

Additionally, the Staff prepared a draft guidance for acceptance ways of ensuring knowledge, skills, and abilities but Applicants will be maintained.

There will be costs associated with the development of additional tests and examinations and rulemaking but codifying in the regulations that licensees must maintain in continuing training program for operator license applicants will provide clarity and efficiency.

And is there any questions on that item while we have Lauren? I'm going to move on to the next item, which is the last item on operator's licensing. That is waiver examination test requirements.

We're in Slide 57.

Under the current regulatory framework, when the differences between subsequent units do not impact the ability of the operator to operate any of the units safely, the facility licensee may ask for an exemption from the operating test and written examination requirement of Section 5531A3.

The NRC would grant exemptions if the criteria of Section 5511 specific exemptions are satisfied and the differences between the units are not so significant that they could affect the operator's ability to operate each unit safely and competently.

And the Applicant has been sufficiently trained on the differences between the units. The Staff is proposing to add a new set of criteria to Section 5547. You can see those in Reference Slide 121.

That, if met, would justify a waiver of portions or all of the written examination and operating tests requirement necessary for applicants to be licensed on subsequent units under construction at a multi-unit site.

This change would eliminate the need for exemptions when the application is found to have met these criteria.

In addition to the regulation change, the Staff is proposing revisions to NUREG 1021 to provide guidance for facility licensees about requesting these waivers and guidance for the NRC to evaluate such requests.

The proposed amendments to Section t5547 also would apply to non-power facilities that are under construction because the proposed waiver criteria also could be used by Applicants at these facilities to justify waiver of examinations.

Since this was not discussed in the regulatory basis, the NRC has not previously received any public comments on this item.

The change is cost beneficial as the new rule would eliminate the need to submit and process exemption requests and would allow for administrating licensing examinations for subsequent units at multi-unit sites when the Applicant meets relevant criteria.

Any questions on this one?

MEMBER HALNON: Greg Halnon. This is a great change, I think it's going to really be good but I would just have one suggestion. In B1 you use the term essentially identical, I think those are conflicting terms.

I would suggest you try to use a

combination of the words you just gave us, which were excellent.

We're really trying to say that they're physically and operationally almost equivalent, essentially equivalent, if you want to use the word essentially, but identical just doesn't go with the word essentially very well.

You'll probably have the same conversation we'll have about essentially complete.

MR. O'DRISCOLL: I'm sorry, just to make sure I actually understand the comment, when you say B1, are you referring to the PRA item?

MEMBER HALNON: I'm sorry, 55.47B1. You used the term essentially identical.

How you just described the two units being close physically and operationally was really good but essentially identical doesn't do it for me.

MR. O'DRISCOLL: Thank you for that, we will definitely address that. Any other comments on anything at all about operator licensing before I move on to miscellaneous topics?

I think, Lauren, you're off the hook and I appreciate your attendance. I know it was short notice.

MS. NIST: Thank you.

MR. O'DRISCOLL: All right, miscellaneous topics. We're on Slide 58. There are a number of other changes made to Part 50 and Part 52 that do not fall into one of the previously discussed categories.

The Staff grouped together these things in a section called miscellaneous topics.

Some areas of the rulemaking that the Staff felt might be of interest to the ACRS Subcommittee are an item on status of ITAC completion, item reporting requirements for two items.

One is on reporting of ECCS errors and another one on reporting completion of construction. And then the topic of conditions of licenses, and then the last one is discontinuing the priority-ranking model for generic safety issues.

So, I'll talk about each of these in turn, is that okay? I'll move on. Let's talk about status of ITAC completion. We're on Slide 59 and this is covered, you can see the change in Slide 123.

So, the Staff is proposing to change the language in Section 5297A2 regarding ITAC acceptance criteria from, quote, have been met to, quote, are met.

The change to the regulations is needed to be consistent with the requirements in Section 185B of

the Atomic Energy Act, and Section 52103G, which state that the acceptance criteria in the COL are, quote, met, unquote.

This change would eliminate ambiguity in the context of when an Applicant met the acceptance criteria at some earlier time during the construction phase, but where the criteria may not have been maintained, such that the criteria are no longer met at the time the Section 5297A2 finding was made.

So, the NRC did not receive any public comments on this item as it was discussed in the regulatory basis and we believe the cost to this item is negligible.

And is there any questions on this item? I'll move on to the next one. This one is on reporting requirements for emergency ECCS core cooling system errors. We're on Slide 60.

You can see these changes in Reference Slide 72.

So, under Section 5046A33, Roman numeral 3, Applicants 4 or holders of standard design approvals and Applicants for design certifications are required to report changes in errors to the emergency core cooling system evaluation model before an Applicant for the construction or operation of a

reactor has submitted to the NRC an application that references the standard design approval or design certification.

Reporting such changes and errors to the NRC before the time when an Applicant references the design in an application for construction permit, an operating license or a combined license or a manufacturing license does not produce a tangible public health and safety benefit provided the change or errors do not create the potential for standard design approval or design certification to become non-compliant with the NRC requirements.

The Staff proposes to eliminate reporting requirements for changes or errors that do not result in an inability to ensure compliance with Section 5046 until an standard design approval or a design certification is referenced in an application for a construction permit, operating license, or a combined license, or a manufacturing license.

You can see these changes on Reference Slide 72. Changes to 10 CFR 5046 under this alternative would defer the annual reporting until the standard design is referenced in a license application.

The NRC did not receive any public

comments on this item as it was discussed in the regulatory basis associated with the proposed rule.

This change is cost beneficial because the proposed changed eliminate the need for the annual reports entirely in some cases, and would defer those reports in others.

The cost savings would be those associated with reporting rather than the identification and evaluation of the ECCS evaluation model changes and errors. Does anybody have any questions on that one?

CHAIR REMPE: Yes, I have several questions and comments on that one. And, so I guess I'll start off with the very first one.

In the Regulatory Analysis, the staff stated that many perspective, I guess, many perspective new applicants for DCs or SCAs are not using are not using LWR designs, and therefore, are not subjected to the provisions of 1546, whatever.

And, based on these insights, the NRC estimates the holders of, or applicants for an SDA, or applicants for a DC, would very rarely experience ECCS EM changes, or errors, that result in an inability to share compliance with the acceptance criteria in 10 CFR 5046d.

I'm just curious. What data do you have

to support that statement, is one question.

Before going, do you want to talk about why you believe that's a true statement?

MR. O'DRISCOLL: Well, I think we have some staff on the line that may be able to answer that, if possible, from the Division of Safety Systems in NRR.

MR. LEHNING: Jim, this is John Lehning, from --

MR. O'DRISCOLL: Hi, John.

MR. LEHNING: -- Division of Safety Systems NRR.

So, the wording there is based on experience. So, in particular, the statement about applicants rarely experiencing evaluation model changes that would result in an inability to demonstrate for instance, if the peak cladding temperature is below 2,200. Or the oxidation is less than 17 percent.

So, that's based on the experience that we have with doing the reviews of new light water reactors, and seeing that in some cases, that the margins are very high for these plants that have been designed with this hypothetical LOCA from the very beginning.

Unlike the current plants that have been

operating that you know, some of these changes occurred during the design.

So, some of the new reactors, for instance, do not necessarily even uncover the core for a lot of the events. And, so that's partly what is qualitatively behind the statement.

Obviously, the future is unpredictable and could, could there be some things that we seriously don't expect to happen? Those possibilities are there, but we don't foresee that.

We don't reasonably foresee ways that this is likely going to happen, for these plants to have so much margin.

CHAIR REMPE: So, you're talking then solely about light water reactors with core systems that b46 is supposed to apply to?

MR. LEHNING: Correct.

CHAIR REMPE: But there is a lack of data right now, for some of the new plants.

The other I guess thing, I mean right now, but I mean recently in China, the EPR is having some issues with fuel failures, and they're trying to figure that out.

And so again, there's not a lot of data to support new reactors.

The other thing I'm thinking about is maybe I'm extrapolating too much, and correct my thinking process if it's incorrect, but it seems like we've seen with the DCs that, ones that are certified, there was on example of a certified design that another vendor came in and picked it up.

And, I'm wondering if there's not continuity in reporting required, what happens in those type of situations?

And, then I'm thinking about the earlier remark we made at the beginning of the meeting today, about the, the vendors today, or the design developers of today, are not the established vendors of the past.

And, again, if some of this has tried to be applied to the non-LWRs, some of them are relying on for example, the DOE codes.

And, those codes and how they find errors, and then it gets propagated to a person that's holding a certified design, may not be as straightforward as half of the past, for Westinghouse, or GE, or whoever, had their own tools.

And, when they had errors, they kept track of it, and they went forward with it.

And, so I'm just kind of kicking the tires to see if maybe we ought to be thinking about what's

coming down the pike here, instead of what our experience was in the past.

MR. LEHNING: I understand that question, and this is John Lehning, from the staff again.

I just before answering the new questions you had, I just wanted to make one more statement regarding the first question.

And, so that was in the cost benefit, even if that, some of those statements are, you know, certainly expect them to be the way that we said.

But even if they were to happen differently, that would affect the cost benefit. But not necessarily in the staff side for the safety. Because these reporting requirements and what they are, whether they were wrong about how often they have to report, that, that really doesn't change the safety.

We think that the Regulation still ensures safety adequately, in the way that it's being proposed there.

But I think to just go to the question on the certified design when another vendor picks it up, or transfers back. Because as you say, we've seen that happen.

What I see for that is that even though

this change here that's being proposed, speaks to reporting requirements to the NRC and relaxing those, it does not relieve the vendor of the responsibility to document those changes, and maintain their own internal records.

And, so if a design were to change hands from one vendor to another, then at that time, all the records associated with that design, which would include these error and change reports, would be part and parcel in the staff side, to what gets transferred over.

And, so there should, it's not as if by not reporting it to the NRC, somehow they're relieved of other requirements for quality assurance and completeness of records, and so forth, with, with that.

CHAIR REMPE: So again, this might be my lack of knowledge. I thought when you had a certified design, what's in the public record, is what's in the public record.

Is there any requirement that they have to transfer all their proprietary documents over to whoever picks up the design?

MR. LEHNING: So, John Lehning, I mean, speaking again.

So, I don't know the exact details of what is required in that case, just to be honest, and some other NRC staff may want to jump in and help with that.

But I would say this. That when a design is transferred, there is a whole lot more information associated with that design in order to be able to construct it, and operate it, than what is actually in the, in the DCD and so forth.

And, so if there is a commercial agreement that covers you know, all the details about how to, of tolerances, and all the things of how to do this construction of this, and operation, so much of that's below the level of detail.

So, the you know, the exact details of this and how that gets handled, I couldn't say. But I know that it would be similar to license transfers and things like that I believe, for operating plants and so forth.

But maybe someone else can speak to that.

MR. O'DRISCOLL: And, yes, maybe is there someone from DNRL that want to, that wants to speak to this? Because we did experience this as, as was said before with another applicant.

So, we know you know, ultimately, you

know, I can say is that we reserve the right to get whatever information that's needed to make our safety finding.

So, whether that stuff is proprietary or not, and they have to make commercial deals, whatever, you know, we need to get you know, what we need to make our safety finding.

But I think that's really a licensing question.

CHAIR REMPE: Dennis, you had your hand up briefly. Do you have another thought on this topic? I mean, you were around when we used to talk about Joe's reactor, and things like that, on the committee, and how we had to make sure things worked.

MR. BLEY: That was another guy, but you know, I was --

CHAIR REMPE: Yes, it was.

MR. BLEY: -- thinking before, before I was paying close attention, it was 5046.

But the SDAs that were in part 52, we know from example that if there's a certified design, the only thing another vendor gets unless they buy it, is what's in the rule.

We saw examples of that where a second organization took, took a certified design, but they

had to go back and redo all the calculations for everything, if that's where you were headed, Joy.

CHAIR REMPE: That's where I'm headed. And, I mean I appreciate, again, I don't know the answer to this. I appreciate what you're saying, John Lehning, but when you said you know, they have to turn in their error reports, I'm not sure if that is true.

And, that's why I'm asking the question.

MR. LEHNING: I think it sounds like we may need to take a note of that, and maybe come back and get a more complete answer.

I mean I would say in the case that, of redoing all the calculations, that's a scenario where it's possible that by using different methods, or that some of the errors in changes, they may not necessarily apply to the new calculation.

But still, there are some items that possibly could come up again in that case, too.

So, let me not say a whole lot more, other than I think we may want to get back to that question in the next discussion.

CHAIR REMPE: That sounds great.

Again, a lot of times in some of the DCAs we've seen a design developer that will say oh, don't worry, we're going to be around when the COL comes in.

And, I constantly am reminding them well, that's not necessarily true. It's a certified design, it's out there, and then it's up to whoever picks up on it to interact with this initial developer.

And, so I, I don't know how well the connections are in place.

And, then I guess my last question is we've got a lot of design developers that are coming in now, that are less, they're not the legacy ones that Dave mentioned earlier.

And, I just am thinking about that some of them rely on the DOE for their, their codes. And, you know, DOE gets their money from The Hill, and it may not be authorized to do that in the future. And, I'm just kind of wondering how that all gets transferred.

But anyway, I think he gets the gist of my question.

MR. LEHNING: Thank you.

MR. O'DRISCOLL: All right, is there any other questions on this topic?

All right, I'll move on to slide 61, and we're getting, we're getting close to the end. But I'm relying on Quynh to keep, keep us all on track here.

So, this one is reporting requirements for

completion of construction. The staff is proposing a change that would require all future part 50 power reactor licensees, and part 52 combined licenses holders, to promptly notify the NRC of the successful completion of power ascension testing.

So, just some history. On June 19, 2020, that's just last year or two years ago rather, the NRC published a final rule that modified the timing of the start of assessment of annual fees, for holders of operating licenses issued under part 50, and holders of combined licenses issued under part 52, to begin on the date when the license, licensee, or the COL holder provides notification to the NRC, that the power ascension testing is complete.

So, part 171 does not contain any notification of reporting requirements. Also, parts 50 and 52 do not contain any provision requiring licensees to notify the NRC of the completion of power ascension testing.

Only current part 52 combined licenses contain a standard license condition, that requires the licensee to submit written notification to the NRC upon successful completion of power ascension testing.

So, take a look at for this language, reference slide 124. The staff is proposing to add

section 5071i, to require all future part 50 power reactor licensees, and power 52 COL holders, to notify the NRC of the completion of power ascension testing.

This would ensure that the licensee promptly submits a notification of successful completion of power ascension testing, so the NRC can begin assessing part 171 fees.

The NRC did not receive any public comments on this item, as it was discussed in the regulatory basis associated with the proposed rule.

The proposed change would be cost beneficial because the improved clarity of Regulation requirements would provide more regulatory certainty, and improve efficiency.

This would result in resourcings for the applicant, because the NRC would not have to develop license conditions to require notification of completion of power ascension testing.

Any questions on that?

All right, I'll move on. 62, conditions of licenses. We're on slide 62.

The staff is proposing to amend section 5054, condition, conditions of licenses, to clarify the applicability of conditions of operating licenses, for non-power production and utilization facilities.

So, you can see these changes in reference slides 125, 126, 127, and 128.

As part of the 2007 part 52 final rule, the NRC revised the introductory text of 5054, to only refer to nuclear power reactor licensees, which introduced uncertainty in the applicability of certain paragraphs of 5054, to production and utilization facilities, other than nuclear power plants.

This proposed rule would amend the NRC's Regulations to ensure applicants and licensees clearly understand which provisions of 5054, apply to non-power production and utilization facilities.

The NRC did not discuss these proposed changes in the regulatory basis, so the NRC has not previously received any public comments on this item.

These changes are cost beneficial for applicants, because the production and utilization facility licensees and applicants would understand the applicability of these provisions, and the NRC would not have to explain it to them on a case-by-case basis.

Is there any questions on that one?

All right, I'll move on to this final one here, where hooray, we're almost done.

So, this is, this continuing priority

ranking model for generic issues.

So, the staff is proposing to amend four provisions in part 52, to reflect discontinuance of the priority ranking model, to identify significant generic issues.

This change aligns the Regulation with the current practice that the staff uses, where the staff uses a risk informed method, to identify significant generic issues that an applicant should address in its submittal to the NRC.

So, these changes would affect sections 52.47a21, 52.79a20, 52.137a21, and 52.157f28. And, you can see these on references slides 129 and 130.

Under the proposed changes, the applicants would need to propose technical resolutions of all generic issues identified since July 21, 1999.

And, unresolved safety issues and medium, and high-priority generic issues, identified before July 21, 1999, that are relevant to the design.

The staff received one public comment on this issue. The commenter claimed that part 52 applicants and licensees, would need new guidance to implement this change.

The commenter said that part 52 applicants cannot risk inform the resolution of generic safety

issues under, using Reg Guide 1.174, because the NRC would deem the applicant's PRA technically inadequate, or the process would require the applicant to justify significant departures from Reg Guide 1.174.

The commenter also stated that part 52 applicants should not need to satisfy the requirements of Reg Guide 1.174, because the NRC uses the risk information in a part 52 application, to allow the NRC to conclude that there is reasonable assurance of adequate protection, not to make changes to a previously approved design, or licensing basis.

The NRC disagrees with the recommendation to issue further guidance. The change to the Regulation is needed to align the description of the generic issue process with the current practice, as described in our Management Directive 6.4.

The change that drops, basically this change drops the practice that the staff uses, of assigning a generic issue of priority of high, medium, and low.

And, that does not affect what the applicants must do to review and address a generic issue in their application.

The staff is not proposing further changes to the Regulation as a result of this comment.

So, these changes would clarify the Regulations, and be cost beneficial for applicants because they would need to commit fewer resources to engage with the NRC in pre-application phase, to understand the requirement.

This is because the Regulations would more closely match the description of the information that is needed for the NRC's review.

Any questions on that?

All right. So, let's talk about cost and savings.

So, we're on slide 64, and it's 4:20.

As part of the development of the proposed rule, the staff considered the potential cost and savings for both the industry, and the NRC.

The estimates are preliminary, and subject to change as we further develop the regulatory solutions to the final rule.

In the proposed rule, we intend to make available a separate draft cost estimate document, that will have more details.

We evaluated the proposed changes against the regulatory baseline, that is what we are currently doing. We analyzed savings for the next 10 years where it was applicable.

The total net savings could be anywhere from $16 million to about $26 million, depending on the discount rate used in the estimate.

The corresponding sensitivity analysis conducted, concluded a very, very high chance of obtaining a cost savings from the preceding, from proceeding with this activity.

Of course, the rule making also achieves non-quantifiable benefits such as regulatory efficiency of public confidence.

The biggest items that avert costs are: the items related to security requirements for the storage of unirradiated fuel; the elimination of the need for DC renewals; the clarification of the scope of tier 1 information; the elimination of information requirements related to conformance with the standard review plan; and, enabling construction permit applicant to reference a reviewed environmental assessment, which we didn't talk about, but that's in the environmental topic.

There were several areas where the changes increased costs. These major ones are: the evaluation of severe accidents earlier in the part 50 process; the items related to the PRA changes; the application of TMI requirements for future part 50 applicants;

and, operator license continuing training requirements for cold plants.

Any questions on that? All right.

MEMBER BALLINGER: I suppose that it's theoretically possible for the two first bullets to be both true.

MR. O'DRISCOLL: Sir, I'm not sure I understand the question?

MEMBER BALLINGER: Well, if you'd say that the net averted cost is between $16 and $25 million, and then you say that there's a 99 percent probability that --

MR. O'DRISCOLL: Yes. So, let me explain a little bit about this.

I'm not a cost analyst, but I don't know if folks are familiar with the concept of Monte Carlo analysis.

So, what we do is you know, first you know, we make two point estimates in our cost analysis.

So, we basically say okay, what does it look like if we use a discount rate of 3 percent? And what if we used a discount rate of 7 percent?

So, we basically get two fixed numbers. Hey, if we use a higher discount rate, you know,

basically assuming that whatever money you save, you know, you invest as opposed to use, let's say a three point percent, you get a different number, of course. Because you're looking at the time value of money.

But a lot of things are variable. You have the interest rates, and so what we do is we, we conduct this what we call a Monte Carlo analysis, that runs these scenarios like 10,000 times, and varies using a normal distributions on certain parameters, like interest rates.

And, you get what at the end, at the distribution curve, some you know, very, very, very few are failures we're saying.

And, 99 percent of those 10,000 runs result in a cost savings.

So, it would be very, very, very, very unlikely that that things could align such that you don't save money on this rule. That somehow the --

CHAIR BIER: Jim?

MR. O'DRISCOLL: Go ahead.

CHAIR BIER: I think this was kind of nitpick. I think the basic point was that the first bullet should have been estimated to be between, rather than is between.

So, I don't think we need all the detail

on that, but thank you.

MR. O'DRISCOLL: Okay, all right. I'll stop.

CHAIR BIER: Any other questions or comments on this slide?

MR. O'DRISCOLL: All right.

CHAIR BIER: Okay. So, Jim, given the timing, what I am proposing to do is go to public comments now, and then reserve another 20 to 30 if people are able to stay, to discuss not your slides for next steps, but kind of what comments people want to reemphasize, or come back to on February 18, et cetera.

Is that agreeable?

MR. O'DRISCOLL: Fine by me.

CHAIR BIER: Okay. So, you're able to stay?

MR. O'DRISCOLL: Sure.

CHAIR BIER: So, I guess there's first any questions or comments from the audience. I don't think we have a lot of physical audience here, but if there are any?

CHAIR REMPE: Okay, a lot of people.

CHAIR BIER: Yes.

CHAIR REMPE: There are a lot of people on

the line, and this is the time for public comments. And, I believe you're supposed to unmute yourself and do *6, or something like that.

And, it might be good for someone to just try it to make sure things are working.

CHAIR BIER: So, I think, and that includes anybody who's on Teams, or on the phone lines.

CHAIR REMPE: Right.

CHAIR BIER: Can make comments at this time.

MR. BLEY: Hey Quynh, isn't it *8, or is it *6?

MR. NGUYEN: *6.

CHAIR BIER: I think *6. But I haven't tried it. Could someone on the line just do it to make sure?

Even if you have no questions, just volunteer to be a guinea pig.

MR. NGUYEN: I guess, could the court reporter just say something so we know the line's working?

COURT REPORTER: Court reporter is speaking.

CHAIR BIER: Okay.

MR. NGUYEN: Thanks.

CHAIR BIER: So, I will wait another 30 seconds or so, to see if there is any other comments or questions from Teams, or from the phone line.

Okay. So, first of all, Jim, thank you very much for a very thorough presentation. And, I especially appreciated having all the reference slides at the back, so we didn't have to go digging around.

Plus, it kind of super human to be briefing, you know, you obviously had some staff help here and there. But you basically briefed close to eight hours of it.

But, huge accomplishment by itself. I know it's very tiring.

So, rather than go through the last few slides that you have that we all have available to us anyway, we can review on our own, I wanted to take some time to go over which topics people on the committee really would like to revisit in some form.

Whether it's through discussion now, through staff followup on the 18th, or through you know, just making a different document available to us, whatever.

So, I think one of the first ones in that category is Walt, you wanted to make some comments about this whole idea of essentially complete.

MEMBER KIRCHNER: Thank you, Chairman.

Yes, this is one area that always, this is just an opinion, I'll start with an opinion, of 52.41, scope of the sub-part, and that is the requirements for granting standard design certifications.

It has two sub-parts. Part b1, any person may seek a standard design certification for an essentially complete nuclear power plant, which is an evolutionary change from light water reactor designs of plants, which have been licensed and in commercial operation, before April 18, 1989.

That, and I'll come back to essentially complete.

The second part of the scope goes on to say, any person may also seek a standard design certification for a nuclear power plant, which differs significantly from the light water reactor designs described in the above paragraph that I just read, of this section, or uses simplified, inherent, passive, or other innovative means to accomplish its safety functions.

What it doesn't explicitly call out there, Jim, is that the requirement for essentially complete design.

So, it suggests at the preamble level

going into this sub-part, that there's a lower threshold perhaps, for new designs because they might use simplified, or passive, or innovative means to accomplish their safety functions.

So, where going with this is the b1 provision suggests a level of maturity that's well, an evolutionary change from an existing plant, which suggests that a fairly mature design.

The second part doesn't really request that level of maturity. For example, as demonstrated by prototypical testing or something.

If you go down further into 52.47, contents of applications for the SDAs, there is a c1 and a c, Charlie 1 and 2, reference to these two items in 52.41, that does call out for an essentially complete design.

So, my sense is there is, is that in 52.41 in that d2, there should be a requirement for an essentially complete design.

That, I think, may avert misunderstandings by new advocates of new designs, that aren't how should I say, fully mature.

And, then I would just add that in 52.47, the preamble to that section on content of applications. They actually infer almost, what a

complete, essentially complete design would be.

And, so if you bear with me, I'll just read a couple of sentences out of that preamble. Performance requirements for the design, and sufficient detail to permit the preparation of acceptance and inspection requirements by the NRC; and, procurement specifications and installation specifications by the applicant.

So, that's a fairly mature design when you can go that far and actually start writing procurement specs.

So, I just direct your attention to those points, and thank you, Chairmen.

CHAIR BIER: Okay. Thank you, Walt.

Jim, do you want to comment now, or just take that as an item to come back in some form at a later time?

MR. O'DRISCOLL: We'll certainly take that one back and look at it. I mean what I was thinking of, this is kind of goes back to the discussion of the preamble and what it's for.

And, we're trying to get into the head of what we were thinking when we wrote this stuff. And, I think Eric Oesterle, he also provided some good information earlier about a SECY that we want to dig

into.

But yes, we will, I think this is something we want to read a little bit more, and be prepared a little bit more, you know, and think about it.

CHAIR BIER: Okay.

Anybody else want to comment on this topic of essentially complete in different forms? Okay.

Charlie, you had raised this issue about digital INC upgrades, and I'm wondering if you want to say a little bit more briefly, about that, or?

MEMBER BROWN: All I want to do is make sure that this was the effort we made on --

CHAIR BIER: Your mic's dead.

MEMBER BROWN: Oh, you mean you can't hear me?

We went, the committee and the staff went through a lot of effort to get some clarity added back into Reg Guide 1.187, and the use of 96.07 appendix D, to facilitate INC upgrades.

And, the comment here was made that that did not carry over into the part 52, when they 50.59 stuff for applicability.

I don't understand why that's not the case, even though there's no new plants yet but

they're asking for upgrades.

There's no sense in letting this baby lay around and then get lost somewhere in the future.

CHAIR BIER: And, cause more problems.

MEMBER BROWN: So, I just, for me, they ought to come and address this at our full committee meeting, if that's, that's suitable.

CHAIR BIER: Okay.

MEMBER BROWN: I don't think we need another sub-committee meeting on it. We just ought to have a discussion of that and say why in the world can't you do something that simple.

CHAIR BIER: So, I think that's another item that Jim wanted to kind of get the right people looped in on.

MEMBER BROWN: Exactly right.

Now, I, for all I know, Reg Guide 1.187 and 96.07 will apply to the other plants. I just don't know where, or how that gets executed.

They may not need to do anything. I don't remember a discussion that this only applied to operating plants today, when we went through that. I just don't remember that.

And, I, so that's just the thoughts that I had.

CHAIR BIER: Okay.

MEMBER BROWN: That was it for me.

CHAIR BIER: Thanks.

Dennis, I know at some point you had some comments during the day about how some of the changes here, might be incorporated into Part 53, and/or vice versa. Do you want to reiterate, or summarize?

MR. BLEY: Well, yes, I'll be glad to. I was going to send you and Joy a memo, a short one.

We had a discussion about how changes to an STA by an applicant isn't specified currently, and they added words to, to do that.

There was another example where they gave the same flexibility to a manufacturing license, as for a design cert.

My concern was there are going to be other areas like this. And, instead of having to come in and fight through exceptions, if there could be language added somewhere in part 52.

And, it can't just be in sub-part b for SCAs because it would apply to the other areas as well, that said if the, well, manufacturing license or an SCA runs into a place where it's not defined currently, that one could revert to the processes in part, in the design cert to cover those.

So, that was the thing I talked about.

Definition of essentially complete design 52.1 is pretty good, but the staff made a nice discussion about the importance of showing that this potentially complete design changes with the phase of design, and licensing.

And, I think a couple words added to the first sentence of that definition would clarify that for everyone, and would be helpful.

And, then yes, the one you talked about, Part 53, they're developing, staff is developing an approach to risk informing that, that essentially allows you to take a deterministic, or a I'll call it a full PRA, but I don't like that language because I see PRA as a continuum.

But allows you to take different approaches to accomplishing that. And, I think we're missing the boat a bit, if we don't try to include that same process as part of 50 and 52.

So, I'll send you a note on those because I think those are worthy.

But I would say today was extraordinarily useful, and a lot of the things I was concerned about, Jim really gave us a pretty, and the other staff members, gave us a pretty clear explanation of why

things are as they are, that I think was really good, and clarified things for me.

So, most of the other areas I'm pretty comfortable on. That one Joy is really interested in and I am, too, about mobile reactors, probably we ought to think about that, too.

We might want to say something about that, and maybe the staff could tell us something about that at the full committee meeting.

I don't see a need for another subcommittee meeting, but maybe some of the members do.

That's all.

CHAIR BIER: Thanks, Dennis.

So, Dennis does mention the topic of physical security for mobile reactors. Do you want to say anything more about it while it's on the table?

CHAIR REMPE: No. I think I mentioned it, and the transcript --

CHAIR BIER: Yes.

CHAIR REMPE: -- ought to be available in a few days.

There is several comments I made in the transcript, and I still think there may be a need for us to look at some of the associated guidance, and

what the proposed changes are, at least before our full committee meeting, so that we can, and I, I'm not sure yet that we don't need a half day meeting --

CHAIR BIER: Yes.

CHAIR REMPE: -- to address some of these things, and during the 18th of this month.

But I guess I'd kind of like to see the transcript, and go through those items.

CHAIR BIER: Yes.

CHAIR REMPE: Before I would make that call. But that's my opinion.

CHAIR BIER: I think the --

MR. BLEY: This is a --

CHAIR REMPE: Yes, sorry. Go ahead.

MR. BLEY: I'm just going to jump back in on that one.

This is an opportunity to comment on, on the guidance. I didn't realize it was as complete as it is. I mean, as far along in the approval process as it is.

So, if we want to make, if the committee wants to make comments on any of that guidance, this would be the appropriate time to do it since it's sitting there for us.

MR. O'DRISCOLL: The only thing I'd like to

add, if I could respectfully ask, you know, of course it's always respectfully.

But, if we could pick, if you know, what guidance you would like to really drill in on. Because you know, there is a certain bit of administrative work to, to make sure management is comfortable with making that guidance publicly available.

And, we need to get, make that happen in sufficient time such that the ACRS gets that information in advance of the meeting in order for them to formulate good questions.

So, I'm hoping that you know, I'll work with Quynh, and I'm sure, and we'll you know, we'll make whatever you need, happen.

MR. BLEY: Maybe it's more appropriate to do later than. I don't know, Joy, what do you think?

CHAIR REMPE: Well, I think I need to rethink which guidance I want, I think is important. Because I learned a lot about of life to have, or how you're dealing with multiple rulemakings at the same time.

And, so I would like to take another look at it and of course, this week's very busy with rule committee week.

So, if we could have till like Wednesday of next week to kind of get our ducks in a row, I think I could make a more intelligent assessment.

And, I think other members also, will have the same problem, that it's hard to do outside work with our full committee week.

Is that okay with your schedule, Jim?

MR. O'DRISCOLL: Yes, we'll make it happen.

CHAIR REMPE: Thank you.

CHAIR BIER: Okay.

That sounds like kind of what I had in mind, is that we would review the list of guidance documents to figure out what our highest priorities were, and get a kind of consensus list to you sometime hopefully early or mid next week.

So, any other comments or topics that people want to make? It looks like both Charlie and Jose, so.

MEMBER BROWN: Go ahead.

CHAIR BIER: Jose first. You've been quiet all day.

MEMBER MARCH-LEUBA: Yes, I've been trying to stay off.

It's on a really different topic, but related. It has to do with topical reports.

We had a presentation last month, a couple of weeks ago, on the design center new licensing process, in which what I got out of it is that the staff is encouraging pre-submittal topical reports, to kind of clear a special features of minute design.

Like, I have a novel containment, or a novel this or that. I can send a topical report and have it reviewed ahead of time, and get an opinion from the staff.

Typically, topical reports are used almost exclusively for methodologies. So, using a pharmaceutical terminology, we're using topical reports either with with off-label, if we using for this.

So, I encourage it. I mean I like it; I love it. We should do it more. I'd like to think if the staff can figure out a way to, I mean the rule is completely silent on this.

And, indeed, one would expect that you will not touch a topical report on a design unless the design is written like a design.

It'll be nice if that was properly codified that it is a good thing to do, which I encourage.

MR. O'DRISCOLL: Okay, so this is sort of

a question for John Segala's group. But I would submit that you know, when a topical report is reviewed, you can reference that report in your subsequent application.

That has been done before, and we continuing to do that.

MEMBER MARCH-LEUBA: What I'm saying is, if I am an applicant and I'm following this approach of sending a topical report, it's a couple of years before the application, I'm doing it at risk. You may not even accept it.

MR. O'DRISCOLL: Uh huh.

MEMBER MARCH-LEUBA: There might be a way, it doesn't need to be part of the rule, it might be a way to say yes, this is an acceptable thing for, for new reactors to do. And, we will accept it for you.

I don't know. Think of this a way to make it, to reduce the regulatory uncertainty for me as an applicant.

CHAIR BIER: Jose, are you suggesting that this should maybe be explicitly addressed somewhere in parts 50 and 52, or just that it's kind of an orthogonal topic?

MEMBER MARCH-LEUBA: If that is what we mean that that's the way we would like for new

reactors to be, have an option, which I do, I think it should be included. Maybe in the preamble, you know?

CHAIR BIER: Okay, thank you.

So, coming back to Charlie, whatever the other topic was now.

MEMBER BROWN: Yes, this is just a general thought process; sorry about that. I was going to make the same comment Greg did a few minutes ago.

The inclusion of the stuff covered in the slide where you could directly reference off to what they were talking about, and see what they were doing.

I don't remember seeing that in any other meetings before. Maybe somebody could correct me, or I slept through it if that was the case.

But that was very, very useful. I don't know how on complex subjects like this, even with the redline version they gave us, and you could go back and it was hard to dig out the connection between what they're presenting in the slide, and what you read in that document.

And, they had those paragraphed out with you know, just little sections. Very, very useful. They were all back in the back, and you could rapidly go to it.

We got a lot of questions answered by

being able to go back and forth.

We can't make people do anything, okay? I recognize that. But on a complex issues like that, I'll have to admit on the Part 53 presentations, I lost the bubble I don't know how many meetings ago.

It's just everything's so scattered around, that I don't know what it's even required anymore, okay?

So, I'm not, I'm just somehow we ought to try to communicate. I don't know what the right way to do that is. We obviously can't demand anything.

But Greg was right on the money, and I had the same thought when I was reviewing this. It was much easier when we got to the slides, and then you could review them and say oh, that's easy now, instead of wasting a lot of time finding the stuff.

And, it answered a lot of questions that we didn't have to ask during the meeting. It was a very productive meeting.

CHAIR BIER: Yes, I agree with that.

Any other topics that people want to raise? And, if not, I'll talk very briefly about next session.

MEMBER HALNON: Vicki, this is Greg.

CHAIR BIER: Oh, sorry, yes?

MEMBER HALNON: Just two things that I'm going to carry forward --

CHAIR BIER: Okay, great.

MEMBER HALNON: Nothing has to be done. I mean obviously we talked about the New Reg 1021, and I'll review that when we get it uploaded to where we're sure we have the right version.

And, then the connection with 50.160, and how that issues comes out with EPZ and FEMA, and all that stuff, and make sure that that carries through as well to the final.

CHAIR BIER: Great.

MEMBER HALNON: So, nothing that I need.

CHAIR BIER: Nothing that requires --

MEMBER HALNON: Just open items on my list.

CHAIR BIER: Yes, just double check that.

MEMBER HALNON: Correct.

CHAIR BIER: Okay.

Any other points people want to raise?

CHAIR REMPE: So, I talked several times about you know, it was great that you're trying, even though we have changes we want on designing and essential complete designs.

But I still think some thought ought to be included about an essentially completely conceptual

design, for a construction permit. Because I think that's just as hairy of a SECY.

But I also wanted to thank the staff for the earlier briefings. Their willingness to try and provide us information to support this meeting, and it was a very great presentation. And, the staff should be commended for it.

And, I mean we always talk about poor Bucile Bereckly (phonetic) and all his Part 53 ratings he's had to give us, and has patience for all our questions, and I think Jim deserves similar commendations.

So, thanks.

CHAIR BIER: Absolutely. And, my sense from here first of all, if we do decide that we want to come back on February 18, I do not envision that it will be another mammoth all day briefing like this.

We've already had the overview, and there may be a few topics that justify coming back for you know, a part-day briefing. A few hours would be appropriate; technical staff available for each topic.

Or, we may decide that those can just be handled at full committee, or offline by sharing of documents, et cetera.

CHAIR REMPE: I still lobby for as much as

we can in a morning briefing, because it's harder --

CHAIR BIER: Yes, for sure.

CHAIR REMPE: -- to accommodate, even with the reduction in some of the scope for March full committee.

It's just hard to have more than an hour and a half meeting.

CHAIR BIER: Well --

MEMBER PETTI: So I'm a little worried that we're asking the staff, that it's too hard a lift.

If they don't get our comments back till next Wednesday, they're supposed to get stuff to us in advance of the meeting. And, it's almost like they got two days to turn it around.

CHAIR REMPE: Well, some topics they heard today. I agree with you.

And, then the other issue is well, can we get guide? And, I just I don't know if we can get our act together quicker than Wednesday.

MEMBER PETTI: I understand that but --

CHAIR REMPE: How do you feel, Jim? Is that not enough time?

MR. O'DRISCOLL: I guess it depends on the number of guidance documents, and the willingness of folks to, yes.

CHAIR REMPE: If you can't get them, that's fine, but.

CHAIR BIER: Well, and you know one solution to that might be that we request the guidance documents that we want, but they may not be available prior to the 18th.

They may just be available for us to review with enough lead time before full committee.

Because I agree with Joy, that especially if we're going to try and write a letter in March, getting new input or new answers to our questions in March, is going to be difficult on our side.

But I also appreciate that you know, we don't want to make things unreasonably difficult on your side either.

So, I think we will come back with a recommendation about what we would like to do, if anything, on the 18th. But also with some list of hopefully not an enormous number of document requests, that might be uncoupled from the February 18th meeting.

MR. O'DRISCOLL: Okay.

CHAIR BIER: Any last --

CHAIR REMPE: Go ahead.

CHAIR BIER: Quynh, okay?

MR. NGUYEN: Yes. So I think that the game plan is for February 18, I will notice a meeting for the morning.

CHAIR BIER: Excellent.

MR. NGUYEN: So, inputs to collect and summarize these thoughts. I'll try to, hope to the deadline's Tuesday or Wednesday next week. We'll try to make the requests for any guidance documents for public discussion.

I'll continue to work with Jim to see you know, what's possible in that time. And, obviously we've got to weigh our requests versus time remaining.

But it's very important that you know, we'll probably spend a half an hour to discuss what should be on the agenda, or points of emphasis for the March full committee, unless you want the whole thing and Jim talks really, really fast to accomplish it in 1.5 hours.

CHAIR BIER: No, that doesn't sound like a great plan for him, or us probably, so.

MR. NGUYEN: Yes, so I think it's important to at least have that discussion of what you know, should be summarized, or brought up for the full committee.

So, there's value there.

CHAIR BIER: Excellent.

CHAIR REMPE: I personally, would think the full committee meeting would be something more similar to what we've had in prior briefings, where it's just these are the major topics that the rulemaking covers.

And, then if members have specific issues, they can deal with it. But I would consider a high level overview.

CHAIR BIER: Yes.

CHAIR REMPE: That's just, yes.

MR. NGUYEN: Right, right.

CHAIR REMPE: Because then.

CHAIR BIER: If we have the option of a meeting February 18, which we could also I assume, cancel if everything is answered magically before then.

CHAIR REMPE: Sure.

CHAIR BIER: But that we would have that option, and then hopefully by the time we go to March full committee, most of these issues would be addressed at a level where we could at least write up our comments. Write a letter.

MR. NGUYEN: Correct. We can always cancel the subcommittee, but any major developments we should summarize at the full committee.

CHAIR BIER: Sure. That sounds great.

So, I think with that, we are ready to adjourn for the day.

Thank you all very much.

(Whereupon, the above-entitled matter went off the record at 4:53 p.m.)

ADAMS Accession No. ML22020A001

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# ACRS Subcommittee Briefing:

# Content of Proposed Rulemaking to Align Licensing Processes and Incorporate Lessons Learned from New Reactor Licensing

February 1, 2022

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# Today's Meeting

- Provide an update on the effort since the last ACRS meeting on this rulemaking (meeting transcript and slides: ADAMS Accession No. ML21075A211)
- Walk through the content of the proposed rule, including proposed rule language
- Discuss the estimates of costs and savings
- Provide an update on next steps and the rulemaking schedule
- Receive ACRS members' perspectives

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# OPENING REMARKS

**Vicki Bier – Subcommittee Chairman**

**Rob Taylor – Deputy Office Director for New Reactors in the Office of Nuclear Reactor Regulation**

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# NRC STAFF PRESENTATION

# NRC Staff Presenters

Jim O'Driscoll, NMSS

Rulemaking Project Manager

Omid Tabatabai, NRR

Senior Project Manager

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# Purpose of the Rulemaking

- Implement Commission direction in SRM-SECY-15-0002, "Proposed Updates of Licensing Policies, Rules, and Guidance for Future New Reactor Applications," to:
  - Align Parts 50 and 52 reactor licensing processes
  - Improve clarity
  - Incorporate lessons learned in recent licensing proceedings
  - Reduce unnecessary burden on applicants and staff

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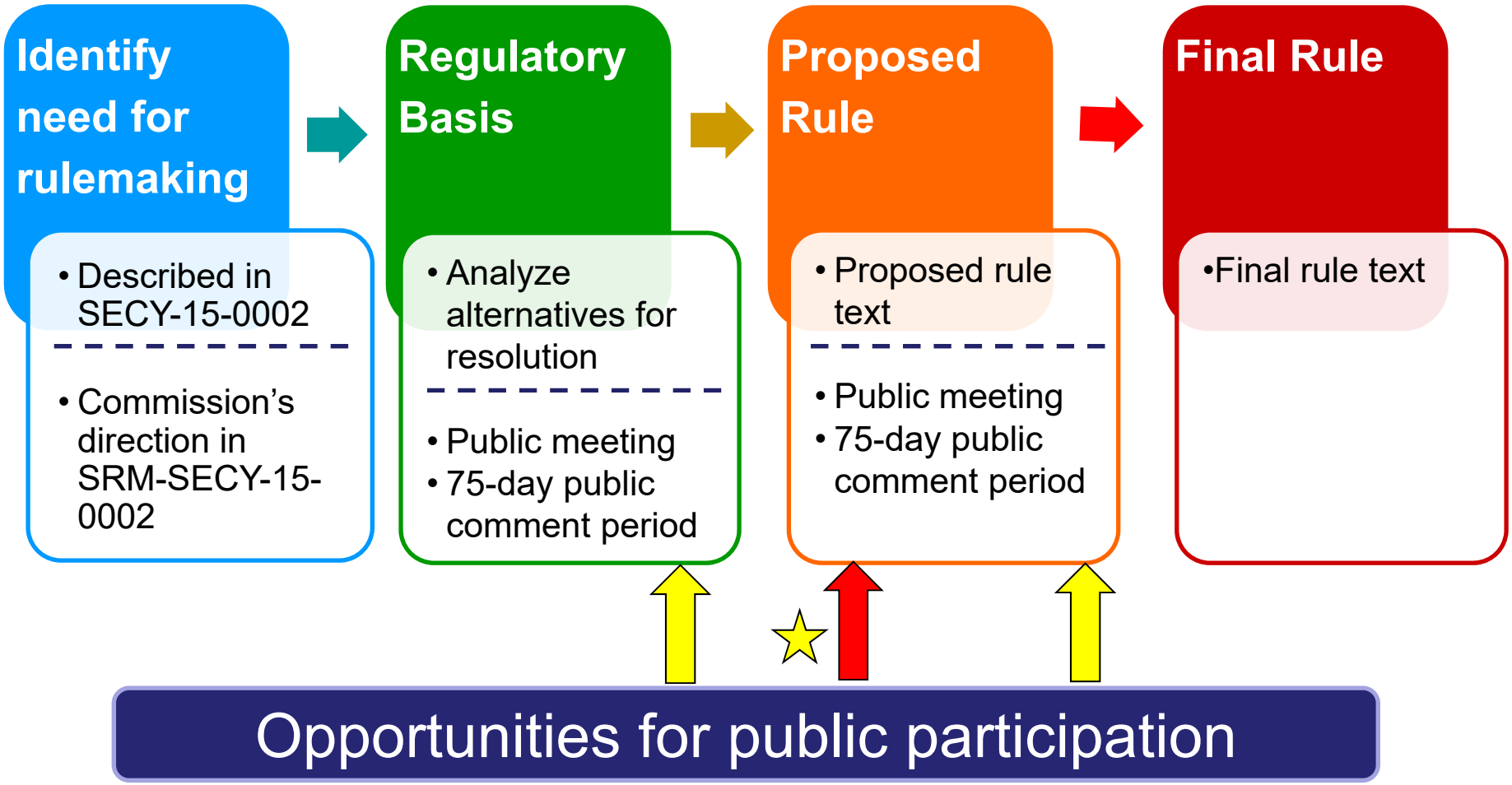
# Rulemaking Process



# Staff's Milestones of Rulemaking Activities

| | |
|---|---|
| October 1, 2018 | Started scoping and outreach |
| January 15, 2019 | Held public meeting |
| July 11, 2019 | Internal alignment on scope of RB |
| August 27, 2019 | Issuance of Commission Information Paper SECY-19-0084 |
| September 20, 2019 | Held ACRS meeting |

# Staff's Milestones of Rulemaking Activities (cont'd)

| | |
|---|---|
| November 21, 2019 | Held public meeting |
| February 2020 | First draft of RB inputs completed |
| April 29, 2020 | Held public meeting |
| January 2021 | Published RB and FRN |
| March 2021 | Held public meetings |

# Staff's Milestones of Rulemaking Activities (cont'd)

| | |
|---|---|
| May 2021 | End of public comment period |
| May 2021 | First drafts of proposed rule technical inputs completed |
| November 2021 | Final drafts of proposed rule technical inputs completed |
| December 2021 | Commenced management review |

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# Next Steps

| | |
|---|---|
| May 2022 | Complete management concurrence |
| May 2022 | Forward the proposed rule to the Commission for approval |
| March 2024 | Forward the final rule to the Commission for approval |

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# *Federal Register* Notice

- A proposed rule FRN supports public participation in the rulemaking process
- NRC's proposed rules also contain a preliminary cost/benefit analysis of the proposed changes
- Organization of the proposed rule:
  - Preamble (explanation of proposed changes)
  - Proposed rule language

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# Preamble

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XVII. Availability of Documents

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# Scope of the Proposed Rule

- Number of technical areas: 11
- Number of items in scope: 61
- Items with rulemaking recommendation: 60
  - Number of items with rulemaking and guidance development or revision: 18
  - Number of guidance documents with rule: 14
- Number of 10 CFR Parts affected by rulemaking: 9

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# Alignment of Parts 50 and 52

- The proposed rule addresses four areas where the NRC's policies and direction for new reactors have resulted it requirements and guidance for Part 52 applicants only:
  - Application of Severe Accident Policy Statement (1)
  - Probabilistic Risk Assessment Requirements (3)
  - Three Mile Island Requirements (1)
  - Fire Protection Design Features and Plans (1)

# Lessons Learned from Recent Experience

- The proposed rule covers topics for which the NRC's recent experience with new light water reactor licensing has resulted in lessons learned

| | | | |
|---|---|---|---|
| Operator Licensing (5) | Physical Security (2) | Fitness For Duty (4) | Emergency Planning (7) |
| Part 52 Licensing Process (21) | Environmental Topic (1) | Applicability of Other Processes to the 10 CFR Part 52 Process (5) | Miscellaneous Topics (9) |

# Relationship to Non-LWRs

- Cross-cutting item
- The item was added in response to public comments on the regulatory basis
- The goal of the discussion and proposed changes is to explain how this rulemaking activity fits with other licensing process efforts and rulemakings that relate to non-light water technology

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# Topics of Interest

- Part 52 Licensing Process (slides 19-39)
- Severe Accidents (slide 40)
- Probabilistic Risk Assessment Requirements (slide 41-44)
- Three Mile Island Requirements (slide 45)
- Emergency Planning (slide 48-52)
- Operator's Licenses (slide 53-57)
- Miscellaneous Topics (slide 58-61)

# Part 52 Licensing Process

- The NRC plans on providing changes and/or guidance to the following areas for Part 52 licensing:
  - DC Renewal (III.H.1)
  - Change Process (III.H.2)
  - Design Scope and Standardization (III.H.3)
  - References to SDAs (III.H.4)
  - Content of Applications (III.H.5)

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# DC Renewal

- Changes: Remove 15-year duration of DCs and renewal requirements
- Affected regulations:
  - § 52.55, “Duration of certification”
  - § 52.57, “Application for renewal”
  - § 52.59, “Criteria for renewal”
  - § 52.61, “Duration of renewal”
  - Part 52 Appendices A, D, and E
- Reduces unnecessary burden on NRC and industry
- Public comments:
  - Supportive; resulted in applying the changes to SDAs and MLs
  - Expired DCs removed from the regulations
- Cost/benefit: Cost-beneficial

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# Change Process

- Changes:
  - Process for Making Changes to the Plant-Specific Design Control Document Organization and Section Numbering
  - Include § 50.59(c) Provisions in the Part 52 Change Process
  - Approval Process for Changes While the Plant Is Being Constructed
  - Standard Design Approval Variance Process
  - Generic Standard Design Approval Change Process
  - Referencing Manufacturing Licenses and Standard Design Approvals While They Are Under Review
- No change recommended:
  - Move the § 50.59-Like Change Process from Part 52 Appendices to Part 52, Subpart B

# PS-DCD Organization and Numbering

- Change: Allow COL applicants to reorganize their PS-DCD without an exemption
- Affected regulations:
  - § IV.A.2 of each DC Rule
  - Reduces unnecessary burden on NRC and industry
- Public comments:
  - Supportive; requested more permission to change Tier 1 information without prior staff approval
  - No further changes to the regulations are proposed to address comments
- Cost/benefit: Rulemaking; qualitative

# Include § 50.59(c) Provisions in the Part 52 Change Process

- Change: Add provisions similar to § 50.59(c)(4) to the change processes in each DC Rule
- Affected regulations:
  - § VIII.B.5.a of each DC Rule
- Improves the alignment of the change processes in Part 50 and Part 52
- Public comments:
  - Supportive; requested more permission to change Tier 1 information without prior staff approval
  - No further changes to the regulations are proposed to address comments
- Cost/benefit: Rulemaking; qualitative

# Approval Process for Changes While the Plant Is Being Constructed

- Change: Add provisions to allow licensees to continue construction while an LAR for a change is under review by the NRC
- Affected regulations:
  - § VIII.B.5 of each DC Rule
- Eliminates construction delays related to NRC staff review of LARs
- Public comments:
  - Requested removal of 45-day requirement to submit an LAR
  - No further changes to the regulations are proposed to address comments
- Cost/benefit: Rulemaking; qualitative

# Standard Design Approval Variance Process

- Change: Establish a new process to govern the request, review, and approval of changes to SDAs in an application
- Affected regulations:
  - § 52.93, “Exemptions and variances”
  - § 52.145, “Finality of standard design approvals; information requests”
- Establishes a clear regulatory process to make changes to a referenced SDA
- Public comments:
  - New item; added in response to public comments on the regulatory basis
- Cost/benefit: Rulemaking; qualitative

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# Generic Standard Design Approval Change Process

- Change: Establish a new process to allow SDA holders to make generic changes to SDAs
- Affected regulations:
  - § 2.100, “Scope of subpart”
  - § 2.101, “Filing of application”
  - § 2.110, “Filing and administrative action on submittals for standard design approval or early review of site suitability issues”
  - § 52.3, “Written communications”
  - § 52.145, “Finality of standard design approvals; information requests”
- Establishes a clear regulatory process to make generic SDA changes
- Public comments:
  - New item; added in response to public comments on the regulatory basis
- Cost/benefit: Rulemaking; qualitative

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# Referencing Manufacturing Licenses and Standard Design Approvals While They Are Under Review

- Change: Allow a CP or COL applicant to reference an SDA or ML that is still under NRC review
- Affected regulations:
  - § 52.173, "Referencing a manufacturing license application"
  - Regulatory Guide 1.206, "Applications for Nuclear Power Plants"
- Afford the same flexibility for MLs and SDAs as that currently afforded DCs and ESPs in the same situation
- Public comments:
  - None; not in the regulatory basis (new item)
- Cost/benefit: Rulemaking; qualitative

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# Move the § 50.59-Like Change Process from Part 52 Appendices to Part 52, Subpart B

- Change: None
- Affected regulations: None
- Reduce the size and complexity of NRC's regulations
- Public comments:
  - There were no public comments on this item
- Cost/benefit: N/A

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# Design Scope and Standardization

- Changes:
  - Add Definitions of Tier 1, Tier 2, and Tier 2*
  - Added Definition of “Essentially Complete Design”
  - Restrictions on Changes to a DC or COL Referencing a DC for Reasons of Standardization
  - Design Certification Rule Section IX

# Add Definitions of Tier 1, Tier 2, and Tier 2*

- Change: Add standardized definitions of tiered information to Part 52
- Affected regulations:
  - § 52.1, “Definitions”
- Add clarity and efficiency; reduce scope of information designated as Tier 1
- Public comments:
  - Requested the item apply only to DC applications
- Cost/benefit: Cost-beneficial

# Clarify the Phrase "Essentially Complete Design"

- Change: Add standardized definition of "essentially complete design" to Part 52
- Affected regulations:
  - § 52.1, "Definitions"
- Add clarity and efficiency; reduce scope of information needed for review
- Public comments:
  - Review September 24, 2021 NEI letter to NRC
- Cost/benefit: Cost-beneficial

# Restrictions on Changes to a DC or COL Referencing a DC for Reasons of Standardization

- Change: Remove requirements to justify proposed exemptions on the basis of standardization
- Affected regulations:
  - § 52.63(b)(1), “Finality of standard design certifications”
  - § 52.93(c),
  - § 52.171(b)(2), “Finality of manufacturing licenses; information requests”
- Reduce unnecessary burden; simplify requirements to justify changes
- Public comments:
  - None
- Cost/benefit: Cost-beneficial

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# Design Certification Rule Section IX

- Change: Remove redundant Section IX (ITAAC) from Appendix D (the AP1000) DC Rule
- Affected regulations:
  - § 52.99, “Inspection during construction”
  - Part 52 Appendix D, Section IX
- Eliminates redundant regulations
- Public comments:
  - ITAAC closure reporting during construction; the staff agrees and proposes an additional change as a result of the comment
- Cost/benefit: Rulemaking; qualitative

# References to Standard Design Approvals

- Change: Revise to clarify that more than one SDA can be referenced in a license application
- Affected regulations:
  - § 52.73(a), “Relationship to other subparts”
  - § 52.79(c), “Contents of applications; technical information in final safety analysis report”
  - § 52.133(a), “Relationship to other subparts”
  - § 52.153(b), “Relationship to other subparts”
- Clarifies regulations
- Public comments:
  - None
- Cost/benefit: Rulemaking; qualitative

# Content of Applications

- Changes:
  - Modify Requirements to Evaluate Conformance with the Standard Review Plan
  - Align Requirements for Timely Completion of Construction
  - Clarify Applicable Regulatory Parts for Certified Designs
  - Clarify the Requirements for Environmental Qualification Program for Manufacturing Licenses

# Modify Requirements to Evaluate Conformance with the Standard Review Plan

- Change: Remove requirements for LWR applicants to submit an evaluation on conformance with the SRP
- Affected regulations:
  - § 50.34(h), “Contents of applications; technical information”
  - § 52.17(a)(1)(xii), “Contents of applications; technical information”
  - § 52.47(a)(9), “Contents of applications; technical information”
  - § 52.79(a)(41), “Contents of applications; technical information in final safety analysis report”
  - § 52.137(a)(9), “Contents of applications; technical information”
  - § 52.157(f)(30), “Contents of applications; technical information in final safety analysis report”
- Reduces unnecessary burden on license applicants
- Public comments:
  - None
- Cost/benefit: Cost-beneficial to industry

# Align Requirements for Timely Completion of Construction

- Change: Amend § 50.100 to resolve an inconsistency with respect to § 50.55 on timely completion of construction
- Affected regulations:
  - § 50.100, "Revocation, suspension, modification of licenses, permits, and approvals for cause"
- Clarifies the regulations
- Public comments:
  - None
- Cost/benefit: Rulemaking; qualitative

# Clarify Applicable Regulatory Parts for Certified Designs

- Change: Add a reference to part 52 as one of the applicable regulatory parts for appendices D and E
- Affected regulations:
  - Part 52 Appendices D and E, Section V
- Clarifies the regulations
- Public comments:
  - None
- Cost/benefit: Rulemaking; qualitative

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# Clarify the Requirements for Environmental Qualification Program for Manufacturing Licenses

- Change: Add a conforming change to the regulations
- Affected regulations:
  - § 52.157, “Contents of applications; technical information in final safety analysis report”
- Clarifies the regulations
- Public comments:
  - None; new item
- Cost/benefit: Rulemaking; qualitative

# Severe Accident Treatment Requirements

- Section III.A of the FRN
- Change: Add requirements for future Part 50 applicants to address severe accidents; require an evaluation on how a proposed change could affect ex-vessel severe accidents
- Affected regulations:
  - § 50.34, “Contents of applications; technical information”
  - § 50.59, “Changes, tests, and experiments”
- Aligns severe accident requirements in Part 50 and Part 52; aligns change process in Part 50 and Part 52 for this issue
- Public comments:
  - Five comments; comments resulted in changes to staff’s recommendation
- Cost/benefit: Quantitative; increased cost for industry, decreased cost for NRC

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# Probabilistic Risk Assessment Requirements

- Changes:
  - Require PRA in the design and operating phases for Part 50 plants (III.B.1)
  - Allow greater use of risk-informed categorization of structures, systems, and components (III.B.2)
  - Require maintaining and simplify the schedule for upgrading the plant-specific PRA (III.B.3)

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# Use of Probabilistic Risk Assessment in Design

- Change: Extend the current PRA requirements in Part 52 to apply to Part 50 power reactor license applicants
- Affected regulations:
  - § 50.34(a), “Preliminary safety analysis report”
  - § 50.34(b), “Final safety analysis report”
- Aligns Parts 50 and 52 on the use of PRA in the design of the facility and ensures that similar risk information is supplied in applications for new power reactor CPs or OLs under Part 50
- Public comments:
  - Ten comments; expressed concern over changes and need for clarification on how to meet requirements
  - In response to comments, NRC changed the cost model to reflect the significant effort required to complete an upgrade prior to loading fuel
- Cost/benefit: Development of PRA, rulemaking; qualitative

# Risk-Informed Categorization of Structures, Systems and Components

- Change: Allow DC applicants, power reactor CP holders, and COL holders to risk-inform the categorization of structures, systems, and components
- Affected regulations:
  - § 50.69, “Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors”
- Allows for risk-informed review of Part 50 CP and OL applications and Part 52 DC applications.
- Public comments:
  - Five comments; questioned the benefit of the rulemaking and expressed concern of undue burden
  - No change to recommendations in response to comments
- Cost/benefit: Rulemaking; qualitative

# Maintaining and Upgrading the Plant-Specific PRA

- Changes:
  - Make regulation applicable to those license holders under Part 50 that are required to develop a PRA
  - Simplify the schedule for upgrading the PRA
- Affected regulations:
  - § 50.71, “Maintenance of records, making of reports”
- Promote a more stable and equitable regulatory environment
- Public comments:
  - Four comments; generally supportive of the changes and recommended some clarifications in regulatory basis
  - No change to recommendations in response to comments
- Cost/benefit: Cost for Maintenance of PRA for part 50 plants, rulemaking; some reduced cost from fewer part 52 exemption requests

# Three Mile Island Requirements

- Section III.C of the FRN
- Changes:
  - Apply TMI requirements to new power reactor applications submitted under Part 50
  - Delete requirements that are included in other regulations or are no longer needed or applicable
- Affected regulations:
  - § 50.34(f), “Additional TMI related requirements”
- Aligns Parts 50 and 52 on requirements related to the TMI accident and ensures consistency in new reactor licensing reviews
- Public comments:
  - Three comments; generally supportive, additional revisions recommended
  - Staff recommended several changes based on comments
- Cost/benefit: Reduced application requirements, rulemaking; quantitative

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# Questions

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# Lunch Break

11:30 AM – 1:00 PM

# Emergency Planning

- Changes:
  - Emergency Plan Change Process (III.G.1)
  - Emergency Preparedness Exercises (III.G.2)
  - Significant Impediments to Development of Emergency Plans (III.G.3)
  - Offsite Contacts, Arrangements, and Certifications (III.G.4)

# Emergency Plan Change Process

- Change: Align the introductory text of § 50.54 with the text in § 50.54(q)(2)
- Affected regulations:
  - § 50.54, “Conditions of licenses”
- Eliminates uncertainty and clarifies intent of regulations
- No public comments
- Cost/benefit: Cost-beneficial; assessed qualitatively

# Emergency Preparedness Exercises

- Changes: Revise paragraphs IV.F.2.a.(i) through (iii) and j of Part 50 Appendix E to provide clarifications and revisions for subsequent exercises and exercise planning
- Affected regulations:
  - Part 50 Appendix E, “Emergency Planning and Preparedness for Production and Utilization Facilities”
- Aligns the requirements for Part 52 licensees and Part 50 licensees
- No public comments
- Cost/benefit: Cost-beneficial

# Significant Impediments to Development of Emergency Plans

- Changes: Distinguish the siting requirements from EP considerations in § 52.17 and clarify that NRC consultation with FEMA is for the purpose of evaluating whether significant impediments identified by the applicant can be mitigated or eliminated by the measures proposed by the applicant
- Affected regulations:
  - § 52.18, “Standards for review of applications”
- Eliminate uncertainty and clarify intent of regulations
- Public comments:
  - Supportive and recommended a flexible approach
  - Further changes to RG 4.7 in response to the comment
- Cost/benefit: Cost-beneficial

# Offsite Contacts, Arrangements, and Certifications

- Change: Clarify what information is required regarding contacts, arrangements, and certifications with Federal, State, and local governmental authorities in the SSAR
- Affected regulations:
  - § 52.17, “Contents of applications; technical information”
- Clearly defines the differing requirements for ESP applications
- Public comments:
  - Editorial correction to regulatory basis
  - No change to recommendations in response to this comment
- Cost/benefit: Cost-beneficial

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# Operators' Licensing

- Changes:
  - Criteria for Simulation Facilities (III.E.1)
  - Plant Walkthrough (III.E.2)
  - Continuing Training for Operator License Applicants (III.E.3)
  - Waiver of Examination and Test Requirements (III.E.4)

# Operator's Licenses - Criteria for Simulation Facilities

- Changes:
  - Amend criteria that a plant-referenced simulator must meet when it will be used to complete the control manipulations required by § 55.31(a)(5) by operator license applicants at nuclear power plants that are under construction
  - Amend the definitions of "plant-referenced simulator" and "reference plant" in § 55.4, "Definitions," to clarify that these terms are also applicable to simulators that model nuclear power plants that are under construction
- Affected regulations:
  - § 55.46(c), "Plant-referenced simulators
  - § 55.4, "Definitions"
- Reduces administrative burden
- No public comments
- Cost/benefit: Cost-beneficial

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# Plant Walkthrough

- Change: Amend the plant walkthrough requirement to give facility licensees of new reactors under construction the option of using suitable alternatives to in-plant testing while the plant is under construction
- Affected regulations:
  - § 55.45, “Operating tests”
- Promotes a more efficient and effective operator licensing process at cold plants
- No public comments
- Cost/benefit: Cost-beneficial

# Continuing Training for Operator License Applicants

- Change: Establish a new requirement for facility licensees at cold plants to maintain the knowledge, skills, and abilities of operator license applicants who have successfully completed the NRC initial licensing examination
- Affected regulations:
  - § 55.31, “How to apply”
- Promotes a more efficient and effective operator licensing process at cold plants
- Public comments:
  - Recommended more specific guidance
  - NRC thus is proposing a new Section H, “Continuing Training for Applicants at New Reactors under Construction,” in NUREG-1021
- Cost/benefit: Rulemaking; qualitative

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# Waiver of Examination and Test Requirements

- Change: Include provisions for licensing of operators at subsequent new units at multiunit sites
- Affected regulations:
  - § 55.47, “Waiver of examination and test requirements”
- Promotes a more efficient and effective operator licensing process at cold plants
- No public comments (not in regulatory basis)
- Cost/benefit: Cost-beneficial

# Miscellaneous Topics

- The NRC is also proposing changes in several other areas of the proposed rulemaking as follows:
  - Status of ITAAC Completion (III.K.7)
  - Reporting Requirements for:
    - ECCS Errors (III.K.4)
    - Completion of Construction (III.K.8)
  - Conditions of Licenses (III.K.9)
  - Discontinuing Priority Ranking Model for GIs (III.K.6)

# Status of ITAAC Completion

- Change: Revise the language regarding acceptance criteria from “have been met” to “are met”
- Affected regulations:
  - § 52.97(a)(2)
- Consistency with the requirements in the AEA and § 52.103(g), which state that the acceptance criteria in the COL “are met”
- No public comments
- Cost/benefit: Negligible cost impact

# Reporting Requirements for ECCS Errors

- Change: Amend § 50.46(a)(3)(i) and (iii) to relax certain reporting requirements related to those SDAs and DCs that are not referenced in any application for the construction or operation of a reactor
- Affected regulations:
  - § 50.46, “Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors”
- Defer the annual reporting until the standard design is referenced in a license or license application
- No public comments
- Cost/benefit: Cost-beneficial

# Reporting Requirements for Completion of Construction

- Change: Require that all future Part 50 power reactor licensees and Part 52 COL holders promptly notify the NRC of the successful completion of power ascension testing
- Affected regulations:
  - § 50.71(i)
- Enables NRC to begin assessing Part 171 annual fees without issuance of license conditions
- No public comments
- Cost/benefit: Cost-beneficial

# Conditions of License

- Change: Clarify the applicability of conditions of operating licenses for non-power production and utilization facilities
- Affected regulations:
  - § 50.54, “Conditions of licenses”
- Clarify the requirements of applicability
- No public comments; not discussed in regulatory basis
- Cost-beneficial

# Discontinuing Priority Ranking Model for GIs

- Change: Amend regulations to reflect discontinuance of the priority ranking model to identify significant generic issues (GIs) in favor of a risk-informed method to identify significant GIs that an applicant should address in its submittal
- Affected regulations:
  - § § 52.47(a)(21), 52.79(a)(20), 52.137(a)(21), and 52.157(f)(28)
- Must propose technical resolutions of all GIs identified since July 21, 1999; unresolved safety issues; and medium- and high-priority generic safety issues identified before July 21, 1999, that are relevant to design
- Public comments:
  - New guidance (beyond RG 1.174) needed for applicants/licensees to implement
  - No change to recommendations in response to this comment
- Cost/benefit: Cost-beneficial; assessed qualitatively

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# Estimates of Costs and Savings

- Total net averted costs to industry and the NRC between $16.1 million and $25.5 million
- To account for sensitivity to plant-specific conditions, the NRC staff performed an uncertainty analysis, which found that the chance of net averted costs is greater than 99%
- Rulemaking would yield nonquantifiable benefits as well (regulatory efficiency, public confidence)

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# Questions

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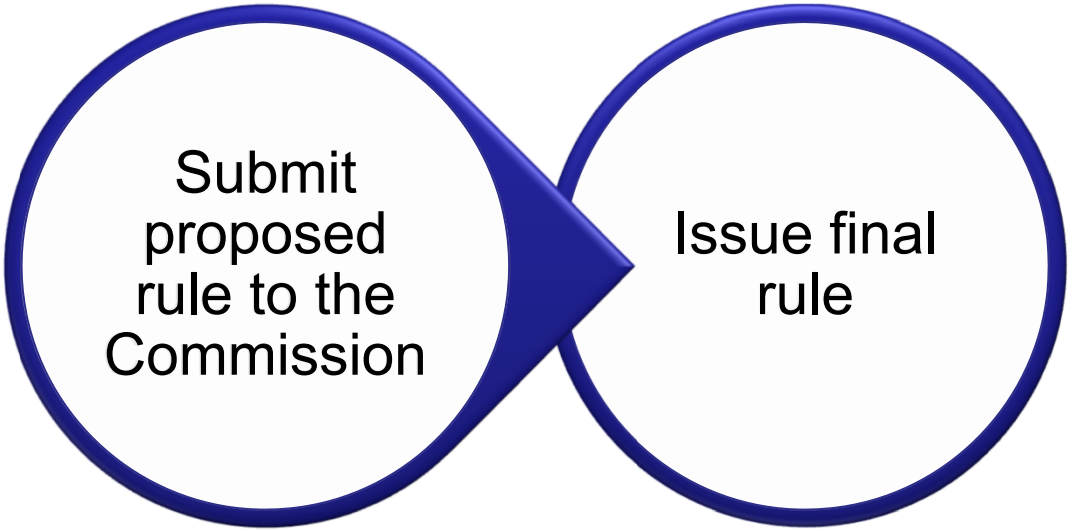
# Recap and Next Steps

- Complete concurrence on draft proposed rule
- Submit the proposed rule to the Commission
- Plan for additional public meeting(s) during the proposed rule phase

# Rulemaking Schedule



# Contact Information

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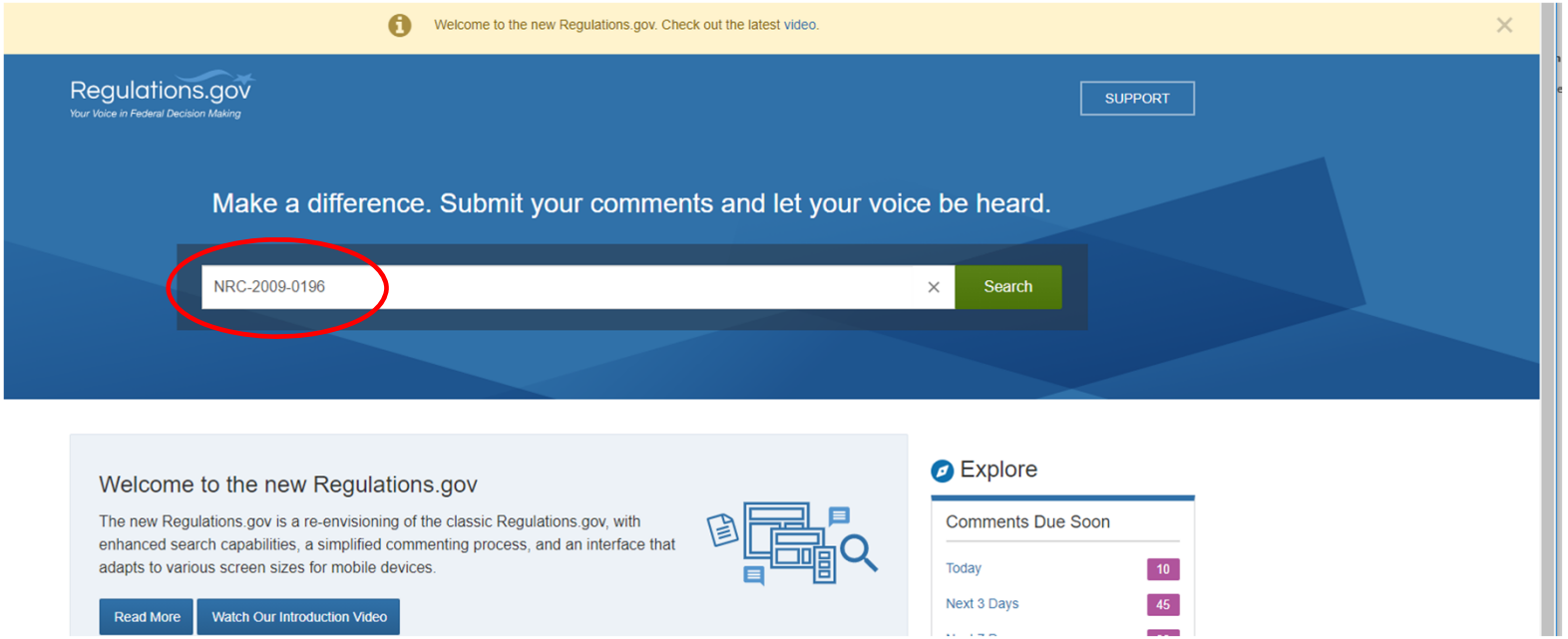
# How to Stay Informed and Involved




- The meeting summary will be posted soon
- Search regulations.gov on the docket ID NRC-2009-0196
- Press the “Subscribe” button to receive alerts about updates to the docket

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# SUPPORTING INFORMATION

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# Abbreviations

| | |
|---|---|
| ACRS | Advisory Committee on Reactor Safeguards |
| ADAMS | Agencywide Documents Access and Management System |
| AEA | Atomic Energy Act of 1954, as amended |
| CFR | Code of Federal Regulations |
| COL | Combined License |
| CP | Construction Permit |
| DC | Design Certification |
| ECCS | Emergency Core Cooling System |
| EP | Emergency Planning |
| ESP | Early Site Permit |
| FEMA | Federal Emergency Management Agency |
| FFD | Fitness For Duty |
| FRN | *Federal Register* Notice |
| FSAR | Final Safety Analysis Report |
| GI | Generic Issue |
| ITAAC | Inspections, Tests, Analyses, and Acceptance Criteria |
| LAR | License Amendment Request |
| LWR | Light-Water Reactor |
| ML | Manufacturing License |
| NEI | Nuclear Energy Institute |
| NMSS | Office of Nuclear Material Safety and Safeguards |
| NRC | Nuclear Regulatory Commission |
| NRR | Office of Nuclear Reactor Regulation |
| OL | Operating License |
| PRA | Probabilistic Risk Assessment |
| PS-DCD | Plant-Specific Design Certification Document |
| RB | Regulatory Basis |
| RG | Regulatory Guide |
| SDA | Standard Design Approval |
| SECY | Office of the Secretary |
| SRM | Staff Requirements Memorandum |
| SRP | Standard Review Plan |
| SSAR | Site Safety Analysis Report |
| SSC | Structure, System, and Component |
| TMI | Three Mile Island |

# ECCS Acceptance Criteria- Rule Language

**§ 50.46 Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors.**

(a) * * *

(3)

(i) Each applicant for or holder of an operating license or construction permit issued under this part~~, applicant for a standard design certification under part 52 of this chapter (including an applicant after the Commission has adopted a final design certification regulation),~~ or ~~an applicant for or holder of a standard design approval,~~ a combined license or a manufacturing license issued under part 52 of this chapter, shall estimate the effect of any change to or error in an acceptable evaluation model or in the application of such a model to determine if the change or error is significant. For this purpose, a significant change or error is one which results in a calculated peak fuel cladding temperature different by more than 50 °F from the temperature calculated for the limiting transient using the last acceptable model, or is a cumulation of changes and errors such that the sum of the absolute magnitudes of the respective temperature changes is greater than 50 °F.

* * * * *

(iii) Each applicant for a standard design certification (including an applicant after the Commission has adopted a final design certification regulation) or an applicant for or holder of a standard design approval under part 52 of this chapter, shall estimate the effect of any change to or error in an acceptable evaluation model or in the application of such a model. For each change to or error discovered in an acceptable evaluation model or in the application of such a model that affects the temperature calculation, the applicant or holder ~~of a standard design approval or the applicant for a standard design certification (including an applicant after the Commission has adopted a final design certification rule) shall report~~ must document the nature of the change or error and its estimated effect on the limiting ECCS analysis ~~to the Commission and to any applicant or licensee referencing the design approval or design certification at least annually as specified in § 52.3 of this chapter. If the change or error is significant, the applicant or holder of the design approval or the applicant for the design certification shall provide this report within 30 days and include with the report a proposed schedule for providing a reanalysis or taking other action as may be needed to show compliance with § 50.46 requirements~~. For any change or error correction that results in a calculated ECCS performance that does not conform to the criteria set forth in paragraph (b) of this section, t~~T~~he affected applicant or holder shall propose ~~immediate~~appropriate steps to the Commission within 30 days to demonstrate compliance with § 50.46 requirements, along with a report of the nature of the changes or errors that resulted in an inability to assure compliance and an estimate of their effect on the limiting transient~~or bring plant design into compliance with § 50.46 requirements.~~

# DC Renewal- Rule Language

**§ 52.55 ~~Duration of certification.~~ Referencing a design certification application.**

(a) [Reserved]~~Except as provided in paragraph (b) of this section, a standard design certification issued under this subpart is valid for 15 years from the date of issuance.~~

(b) [Reserved]~~A standard design certification continues to be valid beyond the date of expiration in any proceeding on an application for a combined license or an operating license that references the standard design certification and is docketed either before the date of expiration of the certification, or, if a timely application for renewal of the certification has been filed, before the Commission has determined whether to renew the certification. A design certification also continues to be valid beyond the date of expiration in any hearing held under §52.103 before operation begins under a combined license that references the design certification.~~

(c) An applicant for a construction permit or a combined license may, at its own risk, reference in its application a design for which a design certification application has been docketed but not granted

* * * * *

**§ 52.57 [Reserved]~~Application for renewal.~~**

**§ 52.59 [Reserved]~~Criteria for renewal.~~**

**§ 52.61 [Reserved]~~Duration of renewal~~.**

~~Each renewal of certification for a standard design will be for not less than 10, nor more than 15 years~~.

# DC Renewal- Rule Language (cont'd)

- Part 52 DC appendices A, D and E (example is Appendix A):

**VII. [Reserved]~~Duration of This Appendix~~**

~~This appendix may be referenced for a period of 15 years from June 11, 1997, except as provided for in 10 CFR 52.55(b) and 52.57(b). This appendix remains valid for an applicant or licensee who references this appendix until the application is withdrawn or the license expires, including any period of extended operation under a renewed license.~~

* * * *

**VIII. Processes for Changes and Departures**

A. * * *

B. Tier 2 information.

1. Generic changes to Tier 2 information are governed by the requirements in 10 CFR 52.63(a)(1).

2. Generic changes to Tier 2 information are applicable to all applicants or licensees who reference this appendix, except those for which the change has been rendered technically irrelevant by action taken under paragraphs B.3, B.4, B.5, or B.6 of this section.

3. The Commission may not require new requirements on Tier 2 information by plant-specific order while this appendix is in effect ~~under §§ 52.55 or 52.61~~, unless:

a. * * *

# SDA and ML Renewal- Rule Language

## Subpart E Standard Design Approvals

**§52.147** [Reserved]~~Duration of design approval~~

## Subpart F Manufacturing Licenses

**§52.173 ~~Duration of manufacturing license.~~ Referencing a manufacturing license application.**

~~A manufacturing license issued under this subpart may be valid for not less than 5, nor more than 15 years from the date of issuance. A holder of a manufacturing license may not initiate the manufacture of a reactor less than 3 years before the expiration of the license even though a timely application for renewal has been docketed with the NRC. Upon expiration of the manufacturing license, the manufacture of any uncompleted reactors must cease unless a timely application for renewal has been docketed with the NRC.~~ An applicant for a construction permit or a combined license may, at its own risk, reference in its application a design for which a manufacturing license application has been docketed but not granted.

**§52.177 [Reserved]~~Application for renewal.~~**

**§52.179 [Reserved]~~Criteria for renewal.~~**

**§52.181 [Reserved]~~Duration of renewal.~~**

# Removal of Expired DCs- Rule Language

**Appendix B to Part 52—**[Reserved]~~Design Certification Rule for the System 80 + Design~~

**Appendix C to Part 52—**[Reserved]~~Design Certification Rule for the AP600 Design~~

# PS-DCD Organization and Numbering /Relocate Requirements

**IV. Additional Requirements and Restrictions**

A. An applicant for a combined license that wishes to reference this appendix shall, in addition to complying with the requirements of 10 CFR 52.77, 52.79, and 52.80, comply with the following requirements:

~~1. Incorporate by reference, as part of its application, this appendix;~~

~~2. Include, as part of its application:~~

~~a. A plant-specific DCD containing the same type of information and using the same organization and numbering as the generic DCD for the U.S. ABWR design, as modified and supplemented by the applicant's exemptions and departures;~~

~~b. The reports on departures from and updates to the plant-specific DCD required by paragraph X.B of this appendix;~~

~~c. Plant-specific technical specifications, consisting of the generic and site-specific technical specifications, that are required by 10 CFR 50.36 and 50.36a;~~

d. ~~Information demonstrating that the site characteristics fall within the site parameters and that the compliance with the site parameters and interface requirements have been met~~;

~~e. Information that addresses the COL action items; and~~

~~f. Information required by 10 CFR 52.47 that is not within the scope of this appendix.~~

# Include § 50.59(c) Provisions in the Part 52 Change Process

**VIII. Processes for Changes and Departures**

* * *

B. Tier 2 information.

* * *

5

a. An applicant or licensee who references this appendix may depart from Tier 2 information, without prior NRC approval, unless the proposed departure involves a change to or departure from Tier 1 information, Tier 2* information, or the TS, or requires a license amendment under paragraph B.5.b or B.5.c of this section. When evaluating the proposed departure, an applicant or licensee shall consider all matters described in the plant-specific DCD. The provisions in B.5.b of this section do not apply to proposed departures when applicable regulations establish more specific criteria for accomplishing such departures.

* *

# Approval Process for Changes While the Plant Is Being Constructed

**VIII. Processes for Changes and Departures**

* * *

B. Tier 2 information.

* * *

5 * * *

h.

(1) Notwithstanding the provisions of B.5.a of this section, during the period when the plant is being constructed prior to a Commission finding under 10 CFR 52.103(g), a licensee may construct an SSC in accordance with a proposed departure from Tier 2 or Tier 2* information, excluding the Tier 2* departures covered under B.6.b of this section, of the plant-specific DCD for a COL covered by 10 CFR 52.98(c)(1), without first obtaining a license amendment provided:

i. A licensee must submit the request for a license amendment required to authorize the departure from Tier 2 or Tier 2* of the plant-specific DCD within 45 days after the licensee approves the design of an SSC as changed and begins construction of the SSC;

ii. A licensee is not permitted to begin construction in accordance with a design that departs from Tier 2 or Tier 2* unless the SSC under construction is located within the restricted area defined in 10 CFR Part 20 and described in the FSAR, as updated; and

iii. If the NRC does not approve a request for a license amendment as submitted, the licensee is obligated to construct the facility in accord in the FSAR, as updated, including the plant-specific DCD.

(2) Notwithstanding the provisions of B.5.a of this section regarding the license amendment required under B.5.b of this section, after 10 CFR 52.103(g) finding by the Commission, a prior approval from NRC is required before implementing a proposed departure from Tier 2 information under B.5.b of this section. A prior approval is required for departures from Tier 2* in accordance with B.5.a and B.6.b of this section.

* * * *

# Standard Design Approval Variance Process

## Subpart C Combined Licenses

**§ 52.93 Exemptions and variances.**

*  *  *  *  *

(c) An applicant for a construction permit, combined license, or manufacturing license who has filed an application referencing a standard design approval issued under subpart E of this part may include in the application a request for a variance from one or more design characteristics, site parameters, terms and conditions, or approved design of the reactor or major portions thereof. In determining whether to grant the variance, the NRC staff shall apply the same technically relevant criteria as were applicable to the application for the original or amended standard design approval. Once a construction permit, combined license, or manufacturing license is issued, a referenced standard design approval is subsumed, to the extent referenced, into the construction permit, combined license, or manufacturing license

# Standard Design Approval Variance Process (cont'd)

## Subpart E Standard Design Approvals

**§ 52.145 Finality of standard design approvals; information requests.**

*  *  *

(c) Upon issuance of a construction permit, operating license, combined license, or manufacturing license, any referenced standard design approval is subsumed, to the extent referenced, into the construction permit, operating license, combined license, or manufacturing license.

(d) An applicant for a construction permit, operating license, combined license, or manufacturing license referencing one or more standard design approvals may include in its application a request for a variance from one or more from one or more provisions of the standard design approval, or from the associated final safety analysis report. In determining whether to grant the variance, the NRC staff shall apply the same technically relevant criteria applicable to the application for the original standard design approval.

# Generic Standard Design Approval Change Process

## Subpart A - Procedure for Issuance, Amendment, Transfer, or Renewal of a License, and Standard Design Approval

* * * *

**§ 2.100 Scope of subpart.**

This subpart prescribes the procedure for issuance of a license; amendment of a license at the request of the licensee; transfer and renewal of a license; and issuance of a standard design approval, and amendment of a standard design approval at the request of the standard design approval holder under subpart E of part 52 of this chapter.

* * * *

**§ 2.101 Filing of application.**

(a)

(1) An application for a permit, a license, a license transfer, a license amendment, a license renewal, ~~or~~ a standard design approval, or a standard design approval amendment must~~shall~~ be filed with the Director, Office of Nuclear Reactor Regulation, or the Director, Office of Nuclear Material Safety and Safeguards, as prescribed by the applicable provisions of this chapter. A prospective applicant may confer informally with the NRC staff before filing an application.

# Generic Standard Design Approval Change Process (cont'd)

**§ 2.110 Filing and administrative action on submittals for standard design approval or early review of site suitability issues.**

(a)

(1) A submittal for a standard design approval or standard design approval amendment under subpart E of part 52 of this chapter shall be subject to §§ 2.101(a) and 2.390 to the same extent as if it were an application for a permit or license.

(2) Except as specifically provided otherwise by the provisions of appendix Q to part~~s~~ 50 of this chapter, a submittal for early review of site suitability issues under appendix Q to part~~s~~ 50 of this chapter shall be subject to §~~§~~ 2.101(a)(2) through (4) to the same extent as if it were an application for a permit or license.

(b) Upon initiation of review by the NRC staff of a submittal for an early review of site suitability issues under Appendix Q of part 50 of this chapter, or for a standard design approval or standard design approval amendment under subpart E of part 52 of this chapter, the Director, Office of Nuclear Reactor Regulation, shall publish in the Federal Register a notice of receipt of the submittal, inviting comments from interested persons within 60 days of publication or other time as may be specified, for consideration by the NRC staff and ACRS in their review.

(c)

(1) Upon completion of review by the NRC staff and the ACRS of a submittal for a standard design approval or standard design approval amendment, the Director, Office of Nuclear Reactor Regulation, shall publish in the Federal Register a determination as to whether or not the design is acceptable, subject to terms and conditions as may be appropriate, and shall make available at the NRC Web site, http://www.nrc.gov, a report that analyzes the design.

# Generic Standard Design Approval Change Process (cont'd)

## General Provisions

**§ 52.3 Written communications.**

*  *  *  *  *

(b) *  *  *

(1) **Applications for amendment of permits, approvals, and licenses; reports; and other communications.** All written communications (including responses to: generic letters, bulletins, information notices, regulatory information summaries, inspection reports, and miscellaneous requests for additional information) that are required of holders of early site permits, standard design approvals, combined licenses, or manufacturing licenses issued under this part must be submitted as follows, except as otherwise specified in paragraphs (b)(2) through ~~(b)~~(7) of this section: to the NRC's Document Control Desk (if on paper, the signed original), with a copy to the appropriate Regional Office, and a copy to the appropriate NRC Resident Inspector, if one has been assigned to the site of the facility or the place of manufacture of a reactor licensed under subpart F of this part

*  *  *  *  *

# Generic Standard Design Approval Change Process (cont'd)

## Subpart E Standard Design Approvals

**§ 52.145 Finality of standard design approvals; information requests.**

*  *  *

(e) The holder of a standard design approval may not make changes to the design of the nuclear power reactor or major portions thereof without prior NRC staff approval. The request for a change to the design must be in the form of an amendment application as specified in § 52.3 of this chapter. The application shall fully describe the changes desired, following the form prescribed for original applications insofar as it applies. The NRC staff's review of the amendment application will be guided by the applicable considerations governing the issuance of the initial approval. Upon completion of its review of the application for the amendment the NRC staff shall publish a determination in accordance with § 52.143.

# Referencing Manufacturing Licenses and Standard Design Approvals While They Are Under Review

Subpart F Manufacturing Licenses

**§52.173 ~~Duration of manufacturing license.~~ Referencing a manufacturing license application.**

~~A manufacturing license issued under this subpart may be valid for not less than 5, nor more than 15 years from the date of issuance. A holder of a manufacturing license may not initiate the manufacture of a reactor less than 3 years before the expiration of the license even though a timely application for renewal has been docketed with the NRC. Upon expiration of the manufacturing license, the manufacture of any uncompleted reactors must cease unless a timely application for renewal has been docketed with the NRC.~~ An applicant for a construction permit or a combined license may, at its own risk, reference in its application a design for which a manufacturing license application has been docketed but not granted.

# Definitions of Tier 1, Tier 2, and Tier 2*

**Part 52 – Licenses, Certifications, and Approvals for Nuclear Power Plants**
**General Provisions**

**§ 52.1 Definitions.**

* * * * *

*Tier 1* means, for design certifications issued after **[EFFECTIVE DATE OF FINAL RULE]**, the qualitative and functional-level portion of the design-related information contained in the generic design control document that is approved and certified by a standard design certification. The design descriptions, interface requirements, and site parameters are derived from Tier 2 information. For design certifications issued prior to **[EFFECTIVE DATE OF FINAL RULE]**, see the definition of this term in the applicable appendix to this part.

*Tier 2** means for design certifications issued after **[EFFECTIVE DATE OF FINAL RULE]**, the portion of the Tier 2 information, designated as such in the generic design control document, that is subject to the change process in section VIII.B.6 of the appendices to this Part. This designation expires for some Tier 2* information under section VIII.B.6. For design certifications issued prior to **[EFFECTIVE DATE OF FINAL RULE]**, see the definition of this term in the applicable appendix to this part.

*Tier 2* means, for design certifications issued after **[EFFECTIVE DATE OF FINAL RULE]**, the portion of the design-related information contained in the generic design control document that is approved, but not certified, by a standard design certification. Compliance with Tier 2 is required, but generic changes to, and plant-specific departures from, Tier 2 are governed by section VIII of the applicable appendix to this part. Compliance with Tier 2 provides a sufficient, but not the only acceptable, method for complying with Tier 1. Compliance methods differing from Tier 2 must satisfy the change process in section VIII of the applicable appendix to this part. Regardless of these differences, an applicant or licensee must meet the requirement in section III.B of the applicable appendix to this part to reference Tier 2 when referencing Tier 1. For design certifications issued prior to **[EFFECTIVE DATE OF FINAL RULE]**, see the definition of this term in the applicable appendix to this part.

* * * * *

# Clarify the Phrase "Essentially Complete Design"

**Part 52 – Licenses, Certifications, and Approvals for Nuclear Power Plants**
**General Provisions**

**§ 52.1 Definitions.**

*  *  *  *  *

*Essentially complete design* means a nuclear power plant design of adequate scope and detail to enable the Commission to reach a conclusion that the applicant has satisfied all applicable regulations associated with the design. The scope of an essentially complete design describes all structures, systems, and components required for safe operation of the plant in all modes. Interface requirements are specified for features that are not included within the scope of the design. The level of detail is sufficient to allow resolution of all technical issues using an approach informed by the safety significance of the plant's structures, systems, and components.

*  *  *  *  *

# Restrictions on Changes to a DC or COL Referencing a DC for Reasons of Standardization

**§ 52.63 Finality of standard design certifications.**

*  *  *  *

(b)

(1) An applicant or licensee who references a design certification rule may request an exemption from one or more elements of the certification information. The Commission may grant such a request only if it determines that the exemption will comply with the requirements of § 52.7. ~~In addition to the factors listed in § 52.7, the Commission shall consider whether the special circumstances that § 52.7 requires to be present outweigh any decrease in safety that may result from the reduction in standardization caused by the exemption.~~ The granting of an exemption on request of an applicant is subject to litigation in the same manner as other issues in the operating license or combined license hearing.

*  *  *  *  *

# Restrictions on Changes to a DC or COL Referencing a DC for Reasons of Standardization (cont'd)

**§ 52.93 Exemptions and variances.**

* * * * *

(~~c~~d) An applicant for a combined license who has filed an application referencing a nuclear power reactor manufactured under a manufacturing license issued under subpart F of this part may include in the application a request for a departure from one or more design characteristics, site parameters, terms and conditions, or approved design of the manufactured reactor. The Commission may grant a request only if it determines that the departure will comply with the requirements of 10 CFR 52.7~~, and that the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the departure~~.

* * *

**§ 52.171 Finality of manufacturing licenses; information requests**.

(b) * * *

(2) An applicant or licensee who references or uses a nuclear power reactor manufactured under a manufacturing license under this subpart may request a departure from the design characteristics, site parameters, terms and conditions, or approved design of the manufactured reactor. The Commission may grant a request only if it determines that the departure will comply with the requirements of 10 CFR 52.7~~, and that the special circumstances outweigh any decrease in safety that may result from the reduction in standardization caused by the departure~~. The granting of a departure on request of an applicant is subject to litigation in the same manner as other issues in the construction permit or combined license hearing.

# Design Certification Rule Section IX

**Appendix D to Part 52—Design Certification Rule for the AP1000 Design**

*  *  *  *

**IX. [Reserved]~~Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)~~**

## § 52.99 Inspection during construction.

(a) *Licensee schedule for completing inspections, tests, or analyses.* The licensee shall submit to the NRC, no later than 1 year after issuance of the combined license or at the start of construction as defined at 10 CFR 50.10(a), whichever is later, its schedule for completing the inspections, tests, or analyses in the ITAAC. The licensee shall submit updates to the ITAAC schedules every 6 months thereafter and, within ~~1 year~~6 months of its scheduled date for initial loading of fuel, the licensee shall submit updates to the ITAAC schedule every ~~30~~60 days until the final notification is provided to the NRC under paragraph (c)(1) of this section.

# References to Standard Design Approvals

**Subpart C Combined Licenses**

*  *  *  *  *

**§ 52.73 Relationship to other subparts**.

(a) An application for a combined license under this subpart may, but need not, reference a standard design certification, standard design approval, or more than one standard design approval, provided each referenced standard design approval is for different portions of the same reactor design, or manufacturing license issued under subparts B, E, or F of this part, respectively, or an early site permit issued under subpart A of this part. *  *  *

*  *  *  *  *

# References to Standard Design Approvals (cont'd)

**§ 52.79 Contents of applications; technical information in final safety analysis report.**

(c) If the combined license application references ~~a~~ one or more standard design approvals, then the following requirements apply:

(1) The final safety analysis report need not contain information or analyses submitted to the Commission in connection with ~~the~~each design approval referenced, provided, however, that the final safety analysis report must either include or incorporate by reference ~~the~~each standard design approval final safety analysis report and must contain, in addition to the information and analyses otherwise required, information sufficient to demonstrate that the characteristics of the site fall within the site parameters specified in ~~the~~each design approval. In addition, the plant-specific PRA information must use the PRA information for ~~the~~each design approval and must be updated to account for site-specific design information and any design changes or departures.

(2) The final safety analysis report must demonstrate that all terms and conditions that have been included in ~~the~~ each design approval will be satisfied by the date of issuance of the combined license.

(3) The final safety analysis report must demonstrate that the interfaces between a referenced standard design approval and the balance of the nuclear power plant not described in a referenced standard design approval conform to the descriptions, analyses, and evaluations stated in the referenced standard final safety analysis report.

(4) If the combined license application references more than one standard design approval, the final safety analysis report must demonstrate that the interfaces between each of the referenced standard design approvals conform to the descriptions, analyses, and evaluations stated in each referenced standard final safety analysis report.

* * * * *

# References to Standard Design Approvals (cont'd)

**Subpart E Standard Design Approvals**

**§ 52.133 Relationship to other subparts**.

(a) This subpart applies to a person that requests a standard design approval from the NRC staff separately from an application for a construction permit filed under 10 CFR part 50 or a combined license filed under subpart C of this part. An applicant for a construction permit, operating license, ~~or~~ combined license, or manufacturing license may reference a standard design approval, or more than one standard design approval, provided each referenced standard design approval is for different portions of the same reactor design

* * * *

**Subpart F Manufacturing Licenses**

**§ 52.153 Relationship to other subparts.**

* * *

(b) Subpart B of this part governs the certification by rulemaking of the design of standard nuclear power facilities. Subpart E of this part governs the NRC staff review and approval of standard designs for a nuclear power facility. A manufacturing license applicant may reference a standard design certification or a standard design approval, or more than one standard design approval, provided each referenced standard design approval is for different portions of the same reactor design. These subparts may also be used independently of the provisions in this subpart

* * *

# Modify Requirements to Evaluate Conformance with the Standard Review Plan

**Part 50 – Domestic Licensing of Production and Utilization Facilities**

* * * *

**§ 50.34 Contents of applications; technical information.**

(h) [RESERVED]

# Modify Requirements to Evaluate Conformance with the Standard Review Plan (cont'd)

**Subpart A Early Site Permits**

**§ 52.17 Contents of applications; technical information.**

(a) * * *

(1) * * *

(xii) [Reserved]

**Subpart B Standard Design Certifications**

**§ 52.47 Contents of applications; technical information.**

* * * * *

(a) * * *

(9) [RESERVED]

**§ 52.79 Contents of applications; technical information in final safety analysis report.**

(a) * * *

(41) [Reserved]

# Modify Requirements to Evaluate Conformance with the Standard Review Plan (cont'd)

**Subpart E Standard Design Approvals**

**§ 52.137 Contents of applications; technical information.**

(a) * * *

(9) [RESERVED]

**Subpart F Manufacturing Licenses**

**§ 52.157 Contents of applications; technical information in final safety analysis report.**

(f) * * * *

(30) [RESERVED]

# Align Requirements for Timely Completion of Construction

**§ 50.100 Revocation, suspension, modification of licenses, permits, and approvals for cause.**

A license, permit, or standard design approval under parts 50 or 52 of this chapter may be revoked, suspended, or modified, in whole or in part, for any material false statement in the application or in the supplemental or other statement of fact required of the applicant; or because of conditions revealed by the application or statement of fact of any report, record, inspection, or other means which would warrant the Commission to refuse to grant a license, permit, or approval on an original application (other than those relating to §§50.51, 50.42(a), and 50.43(b)); or for failure to manufacture a reactor, or construct or operate a facility in accordance with the terms of the permit or license, provided, however, that failure to make timely completion of the proposed construction or alteration of a facility under a construction permit under part 50 of this chapter ~~or a combined license under part 52 of this chapter~~ shall be governed by the provisions of §50.55(b); or for violation of, or failure to observe, any of the terms and provisions of the act, regulations, license, permit, approval, or order of the Commission.

# Clarify Applicable Regulatory Parts for Certified Designs

**Appendix D to Part 52—Design Certification Rule for the AP1000 Design**

**V. Applicable Regulations**

A.1. Except as indicated in paragraph B of this section, the regulations that apply to the AP1000 design are in 10 CFR parts 20, 50, 52, 73, and 100, codified as of January 23, 2006, that are applicable and technically relevant, as described in the FSER (NUREG-1793) and Supplement No. 1

**Appendix E to Part 52—Design Certification Rule for the ESBWR Design**

**V. Applicable Regulations**

A. Except as indicated in paragraph B of this section, the regulations that apply to the ESBWR design are in 10 CFR parts 20, 50, 52, 73, and 100, codified as of October 6, 2014, that are applicable and technically relevant, as described in the FSER (NUREG-1966) and Supplement No. 1.

# Clarify the Requirements for Environmental Qualification Program for Manufacturing Licenses

**§ 52.157 Contents of applications; technical information in final safety analysis report.**

(f) * * * *

(6) A description of the program, and its implementation, required by § 50.49(a) of this chapter for the environmental qualification of electric equipment important to safety and t ~~T~~he list of electric equipment important to safety that is required by 10 CFR 50.49(d);

* * * *

# Severe Accident Treatment Requirements

**Part 50 – Domestic Licensing of Production and Utilization Facilities**

* * * *

**§ 50.34 Contents of applications; technical information.**

(a) * * *

(15) On or after **[EFFECTIVE DATE OF FINAL RULE]**, applicants for a permit to construct a light-water power reactor under this part shall submit a description and analysis of design features for the prevention and mitigation of severe accidents.

* * * * *

(b) * * *

* * * * *

(13) On or after [**EFFECTIVE DATE OF FINAL RULE**], applicants for a license to operate a light-water power reactor under this part shall submit a description and analysis of design features for the prevention and mitigation of severe accidents.

# Severe Accident Treatment Requirements (cont'd)

**§ 50.59 Changes, tests, and experiments.**

*  *  *  *  *

(c) * * *

(2) * * *

(vii) Result in a design basis limit for a fission product barrier as described in the FSAR (as updated) being exceeded or altered; ~~or~~

(viii) Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses~~.~~;

(ix) For a power reactor licensed after [**EFFECTIVE DATE OF FINAL RULE**], result in a substantial increase in the probability of an ex-vessel severe accident such that a particular ex-vessel severe accident previously evaluated and determined to be not credible could become credible; or

(x) For a power reactor licensed after **[EFFECTIVE DATE OF FINAL RULE]**, result in a substantial increase in the consequences to the public of a particular ex-vessel severe accident previously evaluated.

*  *  *  *  *

# Probabilistic Risk Assessment Requirements

**§ 50.34 Contents of applications; technical information.**

(a) * * *

(3) * * *

(iii) Information relative to materials of construction, general arrangement, and approximate dimensions, sufficient to provide reasonable assurance that the final design will conform to the design bases with adequate margin for safety.~~.~~

(iv) A description and analysis of the fire protection design features for the plant necessary to comply with General Design Criterion 3 of appendix A to this part.

(4) * * *Analysis and evaluation of ECCS cooling performance and the need for high point vents following postulated loss-of-coolant accidents must be performed, as applicable, in accordance with the requirements of § 50.46 and § 50.46a of this part. ~~for facilities for which construction permits may be issued after December 28, 1974.~~

* * * * * *

(14) On or after **[EFFECTIVE DATE OF FINAL RULE]**, applicants for a permit to construct a power reactor under this part shall submit a description of the plant-specific probabilistic risk assessment (PRA) and its results.

(15) On or after **[EFFECTIVE DATE OF FINAL RULE]**, applicants for a permit to construct a light-water power reactor under this part shall submit a description and analysis of design features for the prevention and mitigation of severe accidents.

(16)On or after **[EFFECTIVE DATE OF FINAL RULE]**, applicants for a permit to construct a light-water power reactor under this part shall submit a discussion on proposed technical resolutions of all generic issues identified since July 21, 1999, unresolved safety issues, and medium- and high-priority generic safety issues identified before July 21, 1999, that are relevant to the design. These issues are based upon the applicant's review of publicly available information published up to 6 months before the docket date of the application (for example, the issues listed in NRC's NUREG-0933, "Resolution of Generic Safety Issues,").

# Probabilistic Risk Assessment Requirements (cont'd)

(b) * * *

(4) * * *Analysis and evaluation of ECCS cooling performance following postulated loss-of-coolant accidents shall be performed, as applicable, in accordance with the requirements of § 50.46 ~~for facilities for which a license to operate may be issued after December 28, 1974.~~

* * * * *

(6) * * *

(viii) A description and analysis of the fire protection design features for the plant necessary to comply with § 50.48 and a description of the fire protection program required by § 50.48 of this chapter and its implementation.

* * * * *

(9) Provided the terms of § 50.61(b)(1) apply, a description of protection provided against pressurized thermal shock events, including projected values of the reference temperature for reactor vessel beltline materials as defined in § 50.61 (b)(1) and (b)(2).

* * * * *

(13) On or after [**EFFECTIVE DATE OF FINAL RULE**], applicants for a license to operate a light-water power reactor under this part shall submit a description and analysis of design features for the prevention and mitigation of severe accidents.

(14) On or after [**EFFECTIVE DATE OF FINAL RULE**], applicants for a license to operate a power reactor under this part shall submit a description of the plant-specific probabilistic risk assessment and its results..

(15) On or after **[EFFECTIVE DATE OF FINAL RULE]**, applicants for a license to operate a light-water power reactor under this part shall submit a discussion on proposed technical resolutions of all generic issues identified since July 21, 1999, unresolved safety issues, and medium- and high-priority generic safety issues identified before July 21, 1999, that are relevant to the design. These issues are based upon the applicant's review of publicly available information published up to 6 months before the docket date of the application (for example, the issues listed in NRC's NUREG-0933, "Resolution of Generic Safety Issues.").

# Probabilistic Risk Assessment Requirements (cont'd)

**§ 50.69 Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors**

*  *  *  *  *

(b) * * *

(~~1) A holder of a license to operate a light water reactor (LWR) nuclear power plant under this part; a holder of a renewed LWR license under part 54 of this chapter; an applicant for a construction permit or operating license under this part; or an applicant for a design approval, a combined license, or manufacturing license under part 52 of this chapter; may voluntarily comply with the requirements in this section as an alternative to compliance with the following requirements for RISC-3 and RISC-4 SSCs~~::

(1) This section describes alternative requirements for the SSCs of a light-water reactor plant. Holders of an operating license or construction permit under this part, a combined license or manufacturing license under part 52 of this chapter, or a renewed license under part 54 of this chapter may voluntarily comply with the requirements in this section. Compliance with the requirements in this section may be proposed when applying for a standard design certification or approval, manufacturing license, or combined license under part 52 of this chapter and when applying for a construction permit or operating license under this part. For RISC–3 and RISC–4 SSCs, the requirements in this section are an alternative to compliance with the following:

*  *  *

# Probabilistic Risk Assessment Requirements (cont'd)

**§ 50.71 Maintenance of records, making of reports**

*  *  *  *  *

(h)

(1) No later than the scheduled date for initial loading of fuel, each holder of an operating license for a power reactor under this part or a combined license under subpart C of ~~10 CFR~~ part 52 of this chapter shall develop a level 1 and a level 2 probabilistic risk assessment (PRA).

(2) Each ~~holder of a combined license~~ licensee required to develop a PRA shall maintain ~~and upgrade~~ the PRA ~~required by paragraph (h)(1) of this section~~to reflect the as-built, as-operated facility. In addition, the licensee must~~The~~ upgrade~~d~~ the PRA ~~must~~to cover initiating events and modes of operation contained in ~~NRC-endorsed~~ consensus standards on PRA that are endorsed by the NRC. The upgrade must be completed within five years of NRC endorsement of the standard~~in effect one year prior to each required upgrade~~. The PRA must be maintained and upgraded ~~every four years~~ until the permanent cessation of operations under § 50.82(a)(1) or § 52.110(a) of this chapter.

(3) Each ~~holder of a combined license~~ licensee required to develop a PRA shall, no later than the date on which the licensee submits an application for a renewed license, upgrade the PRA required by paragraph (h)(1) of this section to cover all modes and all initiating events.

# Three Mile Island Requirements

(f) *Additional TMI-related requirements.* ~~In addition to the requirements of paragraph (a) of this section, each applicant for a light-water-reactor construction permit or manufacturing license whose application was pending as of February 16, 1982, shall meet the requirements in paragraphs (f)(1) through (3) of this section. This regulation applies to the pending applications by Duke Power Company (Perkins Nuclear Station, Units 1, 2, and 3), Houston Lighting & Power Company (Allens Creek Nuclear Generating Station, Unit 1), Portland General Electric Company (Pebble Springs Nuclear Plant, Units 1 and 2), Public Service Company of Oklahoma (Black Fox Station, Units 1 and 2), Puget Sound Power & Light Company (Skagit/Hanford Nuclear Power Project, Units 1 and 2), and Offshore Power Systems (License to Manufacture Floating Nuclear Plants). The number of units that will be specified in the manufacturing license above, if issued, will be that number whose start of manufacture, as defined in the license application, can practically begin within a 10-year period commencing on the date of issuance of the manufacturing license, but in no event will that number be in excess of ten. The manufacturing license will require the plant design to be updated no later than 5 years after its approval. Paragraphs (f)(1)(xii), (2)(ix), and (3)(v) of this section, pertaining to hydrogen control measures, must be met by all applicants covered by this regulation. However, the Commission may decide to impose additional requirements and the issue of whether compliance with these provisions, together with 10 CFR 50.44 and criterion 50 of appendix A to 10 CFR part 50, is sufficient for issuance of that manufacturing license which may be considered in the manufacturing license proceeding. In addition, e~~Each applicant for a design certification, design approval, combined license, or manufacturing license under part 52 and each applicant for a power reactor construction permit or power reactor operating license under part 50 ~~of this chapter shall~~must demonstrate compliance with the technically relevant portions of the requirements in paragraphs (f)(2~~1~~) and~~through~~ (f)(3) of this section~~, except for paragraphs (f)(1)(xii), (f)(2)(ix), and (f)(3)(v)~~.

# Three Mile Island Requirements (cont'd)

(1) [Reserved]

(2) ~~To satisfy the following requirements, the application shall provide sufficient information to demonstrate that the required actions will be satisfactorily completed by the operating license stage.~~ To satisfy the following requirements, the application shall provide sufficient information to demonstrate that the requirement has been met. The information must be of the type customarily required to satisfy ~~§10 CFR~~ 50.35(a)(2) or to address unresolved generic safety issues.

(i) [Reserved] ~~Provide simulator capability that correctly models the control room and includes the capability to simulate small-break LOCA's. (Applicable to construction permit applicants only) (I.A.4.2.)~~

(ii) Establish a program, to begin during construction and follow into operation, for ~~integrating and expanding current efforts to improve~~developing and maintaining plant procedures. The scope of the program shall include emergency procedures, reliability analyses, human factors engineering, crisis management, and operator training. ~~, and coordination with INPO and other industry efforts. (Applicable to construction permit applicants only) (I.C.9)~~

(iii) Provide, for Commission review, a control room design that reflects state-of-the-art human factor principles prior to committing to fabrication or revision of fabricated control room panels and layouts. ~~(I.D.1)~~

(iv) Provide ~~a plant safety parameter display console system that will display~~ for displaying to operators a minimum set of parameters defining the safety status of the plant, capable of displaying a full range of important plant parameters and data trends on demand, and capable of indicating when process limits are being approached or exceeded. ~~(I.D.2)~~

# Three Mile Island Requirements (cont'd)

(v) Provide for automatic indication of the bypassed and operable status of safety systems. ~~(I.D.3)~~

(vi) [Reserved]~~Provide the capability of high point venting of noncondensible gases from the reactor coolant system, and other systems that may be required to maintain adequate core cooling. Systems to achieve this capability shall be capable of being operated from the control room and their operation shall not lead to an unacceptable increase in the probability of loss-of-coolant accident or an unacceptable challenge to containment integrity. (II.B.1)~~

(vii) Perform radiation and shielding design reviews of spaces around systems that may, as a result of an accident, contain accident source term[11] radioactive materials, and design as necessary to permit adequate access to important areas and to protect safety equipment from the radiation environment. ~~(II.B.2)~~

(viii) Provide a capability to promptly obtain and analyze samples from the reactor coolant system and containment that may contain accident source term[11] radioactive materials without radiation exposures to any individual exceeding 5 rems to the whole body or 50 rems to the extremities. Materials to be analyzed and quantified include certain radionuclides that are indicators of the degree of core damage (e.g., noble gases, radioiodines and cesiums, and nonvolatile isotopes), hydrogen in the containment atmosphere, dissolved gases, chloride, and boron concentrations. ~~(II.B.3)~~

(ix) [Reserved]

# Three Mile Island Requirements (cont'd)

auxiliary feedwater system flow indication in the control room. (Applicable to PWR's only) ~~(II.E.1.2)~~

(xiii) Provide pressurizer heater power supply and associated motive and control power interfaces sufficient to establish and maintain natural circulation in hot standby conditions with only onsite power available. (Applicable to PWR's only) ~~(II.E.3.1)~~

(xiv) Provide containment isolation systems that: ~~(II.E.4.2)~~

(A) Ensure all non-essential systems are isolated automatically by the containment isolation system,

(B) For each non-essential penetration (except instrument lines) have two isolation barriers in series,

(C) Do not result in reopening of the containment isolation valves on resetting of the isolation signal,

(D) Utilize a containment set point pressure for initiating containment isolation as low as is compatible with normal operation,

(E) Include automatic closing on a high radiation signal for all systems that provide a path to the environs.

# Three Mile Island Requirements (cont'd)

(xv) Provide a capability for containment purging/venting designed to minimize the purging time consistent with ALARA principles for occupational exposure. Provide and demonstrate high assurance that the purge system will reliably isolate under accident conditions. ~~(II.E.4.4)~~

(xvi) [Reserved]~~Establish a design criterion for the allowable number of actuation cycles of the emergency core cooling system and reactor protection system consistent with the expected occurrence rates of severe overcooling events (considering both anticipated transients and accidents). (Applicable to B&W designs only). (II.E.5.1)~~

(xvii) Provide instrumentation to measure, record and readout in the control room:

(A) containment pressure,

(B) containment water level,

(C) containment hydrogen concentration,

(D) containment radiation intensity (high level), and

(E) noble gas effluents at all potential, accident release points. Provide for continuous sampling of radioactive iodines and particulates in gaseous effluents from all potential accident release points, and for onsite capability to analyze and measure these samples. ~~(II.F.1)~~

(xviii) Provide instruments that provide in the control room an unambiguous indication of inadequate core cooling, such as primary coolant saturation meters in PWR's, and a suitable combination of signals from indicators of coolant level in the reactor vessel and in-core thermocouples in PWR's and BWR's. ~~(II.F.2)~~

# Three Mile Island Requirements (cont'd)

(xix) Provide instrumentation adequate for monitoring plant conditions following an accident that includes core damage. ~~(II.F.3)~~

(xx) Provide power supplies for pressurizer relief valves, block valves, and level indicators such that: (A) Level indicators are powered from vital buses; (B) motive and control power connections to the emergency power sources are through devices qualified in accordance with requirements applicable to systems important to safety and (C) electric power is provided from emergency power sources. (Applicable to PWR's only). ~~(II.G.1)~~

(xxi) Design auxiliary heat removal systems such that necessary automatic and manual actions can be taken to ensure proper functioning when the main feedwater system is not operable. (Applicable to BWR's only). ~~(II.K.1.22)~~

(xxii) [Reserved]

(xxiii) [Reserved]

(xxiv) [Reserved]

(xxv) [Reserved]

(xxvi) Provide for leakage control and detection in the design of systems outside containment that contain (or might contain) accident source term[11] radioactive materials following an accident. Applicants shall submit a leakage control program, including an initial test program, a schedule for re-testing these systems, and the actions to be taken for minimizing leakage from such systems. The goal is to minimize potential exposures to workers and public, and to provide reasonable assurance that excessive leakage will not prevent the use of systems needed in an emergency. ~~(III.D.1.1)~~

# Three Mile Island Requirements (cont'd)

(xxvii) Provide for monitoring of in plant radiation and airborne radioactivity as appropriate for a broad range of routine and accident conditions. ~~(III.D.3.3)~~

(xxviii) Evaluate potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions resulting in an accident source term[11] release, and make necessary design provisions to preclude such problems. ~~(III.D.3.4)~~

(3) * * *

(h) [RESERVED] ~~*Conformance with the Standard Review Plan (SRP).*~~

# Emergency Planning

**Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities"**

I. Introduction * * * *

IV. Content of Emergency Plans

*F. Training*

2. * * *

(a) * * *

(i) For an operating license issued under this part, this exercise must be conducted within 2 years before the issuance of the first operating license for full power (one authorizing operation above 5 percent of rated thermal power) of the first reactor and shall include participation by each State and local government within the plume exposure pathway EPZ and each state within the ingestion exposure pathway EPZ. If the full participation exercise is conducted more than 1 year prior to issuance of an operating license~~e~~ for full power, an exercise which tests the licensee's onsite emergency plans must be conducted within 1~~one~~ year before issuance of an operating license for full power. This exercise need not have State or local government participation.

(ii) For a combined license issued under part 52 of this chapter, this exercise must be conducted within ~~two~~ 2 years before~~of~~ the scheduled date for initial loading of fuel. If the first full participation exercise is conducted more than 1~~one~~ year before the scheduled date for initial loading of fuel, an exercise which tests the licensee's onsite emergency plans must be conducted within ~~one~~1 year before the scheduled date for initial loading of fuel. This exercise need not have State or local government participation. If FEMA identifies one or more deficiencies in the state of offsite emergency preparedness as the result of the first full participation exercise, or if the Commission finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, the provisions of § 50.54(gg) apply.

# Emergency Planning (cont'd)

(iii) For a combined license issued under part 52 of this chapter, if the ~~applicant~~licensee currently has an operating reactor at the site, an exercise, either full or partial participation, shall be conducted for each subsequent reactor constructed on the site. The exercise for each subsequent reactor is not required if, in its application for a combined license, the licensee includes an analysis that shows that an exercise for the new reactor would not demonstrate any new features (e.g., emergency response organization, facilities, procedures) or capabilities beyond those in the emergency plan for the existing reactor(s). This exercise may be incorporated in the exercise requirements of Sections IV.F.2.b. and c. in this appendix. If FEMA identifies one or more deficiencies in the state of offsite emergency preparedness as the result of this exercise for the new reactor, or if the Commission finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, the provisions of § 50.54(gg) apply.

*  *  *

# Emergency Planning (cont'd)

(j) * * *

(iii) For each site, an 8-calendar-year exercise cycle shall begin in the calendar year of the completion of the first subsequent exercise conducted to meet the requirements in paragraphs 2.b and c of this section. In each 8-~~calendar~~ year exercise cycle, nuclear power reactor licensees shall vary the content of scenarios during exercises conducted under paragraph 2 of this section to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements:

(1) Hostile action directed at the plant site;

(2) No radiological release or an unplanned minimal radiological release that does not require public protective actions;

(3) An initial classification of, or rapid escalation to, a Site Area Emergency or General Emergency;

(4) Implementation of strategies, procedures, and guidance under § 50.155(b)(2); and

(5) Integration of offsite resources with onsite response.

# Emergency Planning (cont'd)

(iv) The licensee shall maintain a record of exercises conducted during each 8-year exercise cycle that documents the content of scenarios used to comply with the requirements of section IV.F.2.j of this appendix.

(v) [Reserved]~~Each licensee shall conduct a hostile action exercise for each of its sites no later than December 31, 2015.~~

(vi) [Reserved]~~The first 8-year exercise cycle for a site will begin in the calendar year in which the first hostile action exercise is conducted. For a site licensed under 10 CFR part 52, the first 8-year exercise cycle begins in the calendar year of the initial exercise required by section IV.F.2.a of this appendix~~

# Emergency Planning (cont'd)

The exercises conducted under paragraph 2 of this section by nuclear power reactor licensees must provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to implement the principal functional areas of emergency response identified in paragraph 2.b of this section. Each exercise must provide the opportunity for the ERO to demonstrate key skills specific to emergency response duties in the control room, TSC, OSC, EOF, and joint information center. For each site, an 8-calendar-year exercise cycle shall begin in the calendar year of the completion of the first subsequent exercise conducted to meet the requirements in paragraph 2.b and c of this section. ~~Additionally, i~~In each 8-~~calendar-~~year exercise cycle, nuclear power reactor licensees shall vary the content of scenarios during exercises conducted under paragraph 2 of this section to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements: hostile action directed at the plant site, no radiological release or an unplanned minimal radiological release that does not require public protective actions, an initial classification of or rapid escalation to a Site Area Emergency or General Emergency, implementation of strategies, procedures, and guidance under § 50.155(b)(2), and integration of offsite resources with onsite response. The licensee shall maintain a record of exercises conducted during each 8-year exercise cycle that documents the content of scenarios used to comply with the requirements of this paragraph. ~~Each licensee shall conduct a hostile action exercise for each of its sites no later than December 31, 2015. The first 8-year exercise cycle for a site will begin in the calendar year in which the first hostile action exercise is conducted. For a site licensed under 10 CFR part 52, the first 8-year exercise cycle begins in the calendar year of the initial exercise required by section IV.F.2.a of this appendix.~~

*  *  *  *  *

# Operators' Licenses

**Part 55—Operator's Licenses**

* * *

**§ 55.4 Definitions.**

* * *

*Plant-referenced simulator* means a simulator modeling the systems of the reference plant with which the operator interfaces or, for a plant that is being constructed, will interface, in the control room, including operating consoles, and which permits use of the reference plant's procedures.

*Reference plant* means the specific nuclear power plant from which a simulation facility's control room configuration, system control arrangement, and design data are derived. The reference plant may or may not be actually constructed.

* * *

# Operators' Licenses (cont'd)

**§ 55.45 Operating tests.**

(a) * * *

(b) *Implementation - Administration.* (1) The operating test will be administered in a plant walkthrough and in either ~~A~~ a simulation facility that the Commission has approved for use after application has been made by the facility licensee under § 55.46(b)~~;~~, ~~(2) A~~ a plant-referenced simulator (§ 55.46(c)), ~~(3) T~~ or the plant, if approved for use in the administration of the operating test by the Commission under § 55.46(b).

(2) If a facility is under construction, suitable alternatives may be used in lieu of the plant walkthrough portion of the operating test.

[52 FR 9460, Mar. 25, 1987, as amended at 53 FR 43421, Oct. 27, 1988; 62 FR 59276, Nov. 3, 1997; 66 FR 52667, Oct. 17, 2001]

**§ 55.46 Simulation facilities**.

(a) * * *

(c) *Plant-referenced simulators.*

(1) * * *

(2) * * *:

(i) The plant-referenced simulator utilizes models relating to nuclear and thermal-hydraulic characteristics that either replicate the most recent core load in the nuclear power reference plant for which a license is being sought~~; and~~, or, prior to initial fuel load, replicate the intended initial core load for the nuclear power reference plant for which a license is being sought; and,

# Operators' Licenses (cont'd)

**§ 55.47 Waiver of examination and test requirements.**

(a) * * *

(1) Has had extensive actual operating experience at a comparable facility, as determined by the Commission, within two years before the date of application; ~~(2) H~~has discharged his or her responsibilities competently and safely and is capable of continuing to do so; and ~~(3) H~~has learned the operating procedures for and is qualified to operate competently and safely the facility designated in the application.

(2) The Commission may accept as proof of the applicant's past performance a certification of an authorized representative of the facility licensee or of a holder of an authorization by which the applicant was previously employed. The certification must contain a description of the applicant's operating experience, including an approximate number of hours the applicant operated the controls of the facility, the duties performed, and the extent of the applicant's responsibility.

(3) The Commission may accept as proof of the applicant's current qualifications a certification of an authorized representative of the facility licensee or of a holder of an authorization where the applicant's services will be utilized.

(b) On application, the Commission may waive any or all of the requirements for a written examination and operating test for a licensee who applies for a license to operate one or more subsequent units at a multiunit site, licensed collectively or individually, if it finds that the –

(1) Subsequent unit(s) is/are approved to be, or was/were constructed to, the same standard design or modular design, as defined in § 52.1 of this chapter, as the unit(s) on which the applicant is already licensed, or the subsequent unit(s) is/are otherwise essentially identical to the unit(s) on which the applicant is already licensed, and

(2) The applicant has been sufficiently trained on the differences between the units.

# Operators' Licenses (cont'd)

**§ 55.31 How to apply.**

(a) * * *

(1) * * *

(4) (i) Provide evidence that the applicant has successfully completed the facility licensee's requirements to be licensed as an operator or senior operator and of the facility licensee's need for an operator or a senior operator to perform assigned duties. An authorized representative of the facility licensee shall certify this evidence on Form NRC-398. This certification must include details of the applicant's qualifications, and details on courses of instruction administered by the facility licensee, and describe the nature of the training received at the facility, and the startup and shutdown experience received. In lieu of these details, the Commission may accept certification that the applicant has successfully completed a Commission-approved training program that is based on a systems approach to training and that uses a simulation facility acceptable to the Commission under § 55.45(b) ~~of this part~~;

(ii) If the NRC Form 398 is submitted before the facility licensee is required to have the requalification program described in § 55.59 in effect as described under § 50.54(i-1) of this chapter, describe how the applicant's knowledge, skills, and abilities will be maintained sufficient to safely perform the functions of an operator or senior operator after the applicant passes the written examination described in §§ 55.41 and 55.43 and the operating test described in §55.45, and prior to participation as a licensed operator in the requalification program. In lieu of this description, the Commission will accept a statement that the applicant will participate in a Commission-approved continuing training program developed by using a systems approach to training within 3 months of receiving notice that the applicant has passed the written examination and operating test;

* * * * *

# Status of ITAAC Completion

**§ 52.97 Issuance of combined licenses.**

(a)

(1) * * *

(2) The Commission may also find, at the time it issues the combined license, that certain acceptance criteria in one or more of the inspections, tests, analyses, and acceptance criteria (ITAAC) in a referenced early site permit or standard design certification ~~have been~~ are met. This finding will finally resolve that those acceptance criteria have been met, those acceptance criteria ~~will be~~ are deemed to be excluded from the combined license, and findings under §52.103(g) with respect to those acceptance criteria are unnecessary.

* * * *

# Reporting Requirements

**§ 50.71 Maintenance of records, making of reports**

(i) Each licensee shall notify the Commission as specified in § 50.4 or § 52.3 of this chapter, of successfully completing power ascension testing or startup testing, as applicable, within 30 calendar days of completing the testing.

# Conditions of License

**§ 50.54 Conditions of licenses.**

The following paragraphs of this section, with the exception of paragraphs (r) and (gg), and the applicable requirements of 10 CFR 50.55a, are conditions in every nuclear power reactor operating license issued under this part. The following paragraphs with the exception of paragraph (r), (s), and (u) of this section are conditions in every combined license issued under part 52 of this chapter, provided, however, that paragraphs (i) introductory text, (i)(1), (j), (k), (l), (m), (n), (q)(2), (w), (x), (y), (z), and (hh) of this section are only applicable after the Commission makes the finding under § 52.103(g) of this chapter. The following paragraphs of this section, with the exception of paragraphs (a)(1) through (4), (m)(2) and (3), (o), (q)(6), (r), (s)(1), (u), (w)(1) through (4), (z), (bb), (ff), (gg)(1) and (2), and (jj) are conditions in every non-power production or utilization facility operating license issued under this part.

*  *  *  *

(j) Apparatus and mechanisms other than controls, the operation of which may affect the reactivity or power level of a ~~reactor~~ utilization facility shall be manipulated only with the knowledge and consent of an operator or senior operator licensed pursuant to part 55 of this chapter present at the controls.

(k) An operator or senior operator licensed pursuant to part 55 of this chapter shall be present at the controls at all times during the operation of the utilization facility.

*  *  *  *

# Conditions of License (cont'd)

(m)

(1) A senior operator licensed pursuant to part 55 of this chapter shall be present at the utilization facility or readily available on call at all times during its operation, and shall be present at the utilization facility during initial start-up and approach to power, recovery from an unplanned or unscheduled shut-down or significant reduction in power, and refueling, or as otherwise prescribed in the utilization facility license.

*  *  *  *

(n) The licensee shall not, except as authorized pursuant to a construction permit, make any alteration in the production or utilization facility constituting a change from the technical specifications previously incorporated in a license or construction permit pursuant to § 50.36 of this part.

*  *  *  *

# Conditions of License (cont'd)

(q) * * *

(6) * * *

(s)* * *

(2)* * *

(ii) If after April 1, 1981, the NRC finds that the state of emergency preparedness does not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency (*including findings based on requirements of appendix E, section IV.D.3*) and if the deficiencies (*including deficiencies based on requirements of appendix E, section IV.D.3*) are not corrected within four months of that finding, the Commission will determine whether the ~~reactor~~ production or utilization facility shall be shut down until such deficiencies are remedied or whether other enforcement action is appropriate. In determining whether a shutdown or other enforcement action is appropriate, the Commission shall take into account, among other factors, whether the licensee can demonstrate to the Commission's satisfaction that the deficiencies in the plan are not significant for the plant in question, or that adequate interim compensating actions have been or will be taken promptly, or that there are other compelling reasons for continued operation.

* * * * *

(z) Each licensee with a ~~utilization facility~~ nuclear power reactor licensed pursuant to sections 103 or 104b. of the Act shall immediately notify the NRC Operations Center of the occurrence of any event specified in § 50.72 of this part.

* * * * *

# Conditions of License (cont'd)

(ee)

(1) Each license issued under this part authorizing the possession of byproduct and special nuclear material produced in the operation of the licensed ~~reactor~~ production or utilization facility includes, whether stated in the license or not, the authorization to receive back that same material, in the same or altered form or combined with byproduct or special nuclear material produced in the operation of another reactor of the same licensee located at that site, from a licensee of the Commission or an Agreement State, or from a non-licensed entity authorized to possess the material.

*  *  *  *  *

# Discontinuing Priority Ranking Model for GIs

**§ 52.47 Contents of applications; technical information.**

(a) * * *

(21) Proposed technical resolutions of all generic issues identified since July 21, 1999, unresolved safety issues, and medium- and high-priority generic safety issues identified before July 21, 1999, that are relevant to the design. These issues are based upon the applicant's review of publicly available information published up to 6 months before the docket date of the application (for example, the issues listed in NRC's NUREG-0933, "Resolution of Generic Safety Issues,"~~those Unresolved Safety Issues and medium and high priority generic safety issues which are identified in the version of NUREG 0933 current on the date up to 6 months before the docket date of the application and which are technically relevant to the design~~;

**§ 52.79 Contents of applications; technical information in final safety analysis report.**

(a) * * *

(20) Proposed technical resolutions of ~~those Unresolved Safety Issues and medium- and high priority generic safety issues~~ all (1) generic issues identified since July 21,1999, (2) unresolved safety issues, and (3) medium- and high-priority generic safety issues identified before July 21,1999, that are relevant to the design. These issues are based upon the applicant's review of publicly available information published up to 6 months before the docket date of the application (for example, the issues listed in NRC's NUREG-0933, "Resolution of Generic Safety Issues." ~~those Unresolved Safety Issues and medium and high priority generic safety issues which are identified in the version of NUREG 0933 current on the date up to 6 months before the docket date of the application and which are technically relevant to the design~~;

# Discontinuing Priority Ranking Model for GIs (cont'd)

**§ 52.137 Contents of applications; technical information.**

(a) * * *

(21) Proposed technical resolutions of ~~those Unresolved Safety Issues and medium- and high-priority generic safety issues~~ all generic issues identified since July 21,1999, unresolved safety issues, and medium- and high-priority generic safety issues identified before July 21,1999, that are relevant to the design. These issues are based upon the applicant's review of publicly available information published up to 6 months before the docket date of the application (for example, the issues listed in NRC's NUREG-0933, "Resolution of Generic Safety Issues.").~~those Unresolved Safety Issues and medium and high priority generic safety issues which are identified in the version of NUREG 0933 current on the date up to 6 months before the docket date of the application and which are technically relevant to the design~~;

**§ 52.157 Contents of applications; technical information in final safety analysis report.**

(f) * * *

(28) Proposed technical resolutions of ~~those Unresolved Safety Issues and medium- and high-priority generic safety issues~~all generic issues identified since July 21,1999, unresolved safety issues, and medium- and high-priority generic safety issues identified before July 21,1999, that are relevant to the design. These issues are based upon the applicant's review of publicly available information published up to 6 months before the docket date of the application (for example, the issues listed in NRC's NUREG-0933, "Resolution of Generic Safety Issues.").~~those Unresolved Safety Issues and medium and high priority generic safety issues which are identified in the version of NUREG 0933 current on the date up to 6 months before the docket date of the application and which are technically relevant to the design~~;

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