Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards
Regulatory Policies & Practices Subcommittee

Docket Number: (n/a)

Location: Rockville, Maryland

Date: Friday, September 20, 2019

Work Order No.: NRC-0574 Pages 1-93

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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 & PRACTICES SUBCOMMITTEE

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OPEN SESSION

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FRIDAY

SEPTEMBER 20, 2019

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ROCKVILLE, MARYLAND

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The Subcommittee met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B10, 11545 Rockville Pike, at 8:30 a.m., Matthew W. Sunseri, Chair, presiding.

COMMITTEE MEMBERS:

MATTHEW SUNSERI, Chair

DENNIS C. BLEY, Member

CHARLES H. BROWN, JR., Member

MICHAEL L. CORRADINI, Member*

VESNA B. DIMITRIJEVIC, Member

WALTER KIRCHNER, Member*

DAVID PETTI, Member*

HAROLD B. RAY, Member

JOY L. REMPE, Member

PETER RICCARDELLA, Member*

DESIGNATED FEDERAL OFFICIAL:

QUYNH NGUYEN

ALSO PRESENT:

ANNA BRADFORD, NRO

JOSEPH COLACCINO, NRO

CAROLYN LAURON, NRO

SCOTT MOORE, Executive Director, ACRS

JAMES O'DRISCOLL, NMSS

*Present via telephone

P R O C E E D I N G S

8:31 a.m.

CHAIR SUNSERI: Good morning. The meeting will now come to order. This is a meeting of the regulatory policies and practices subcommittee of the advisory committee on reactor safeguards. My name is Matt Sunseri, chairman of the subcommittee meeting.

ACRS members in the room today are Harold Ray, Joy Rempe, Charlie Brown, Vesna Dimitrijevic, and members on the phone are Pete Riccardella, Michael Corradini, Dave Petti, and Walt Kirchner. Did I miss anybody on the phone? Got them all? All right. Quyhn Nguyen is the ACRS staff member designated official for this meeting.

The subcommittee will hear from representatives of the staff regarding lessons learned on 10 CFR Part 50 and 52 activities. I'm going to depart from the script a little bit here. This meeting was called at our request.

The motivation for that is we have several members that have quite a bit of experience with implementing Part 50 and Part 52. Because this rulemaking is so far in our future, and because of the tenure of some of these members, they won't be around when the opportunity comes for ACRS to be in process

review of this potential rule change or this rulemaking. We wanted to have an opportunity for them to share some of their experiences and wisdom with the staff as you consider the changes that you want to make in the proposed rulemaking.

That's the motivation for today's meeting, as opposed to a normal meeting, where we're going to be reviewing and providing opinions in preparation for a full committee review. There will not be -- we are not planning a full committee review following this meeting.

What you will hear today is opinions and ideas from individual members and not representative of ACRS' position on anything. I want to be clear on that. The ACRS was established by statute and is governed by the Federal Advisory Committee Act. This means that our committee can only speak through its published report.

The parties who wish to provide comments can contact our office requesting time. That said, we set a time for spur of the moment comments from members of the public attending or listening to our meeting. Written comments are also welcome. The ACRS section of the U.S. NRC public website provides our charter, bylaws, letters, and full transcripts of full

and subcommittee meetings, including slides presented at this meeting. As of the start of this meeting, we have received no written comments or requests for time from members of the public to make any statements today. We have a bridge line established for interested members that would like to listen in.

To preclude interruption of the meeting, the phone bridge will be placed in a listen-in mode during the presentation and the committee discussion. We will unmute the bridge line at a designated time to afford the public an opportunity to make comments or provide statements.

At this time, I ask that all the meeting attendees and participants silence their cell phones or other electronic devices that make audible noises. A transcript of the meeting is being kept and will be made available. Therefore, we request participants in this meeting to use the microphones located throughout the meeting room when addressing the subcommittee.

Participants should fist identify themselves and speak with sufficient clarity and volume so that they may be readily heard. Just as a lesson learned, make sure that the green light on your microphone is on when you're speaking, and then turn it off when you're not because of the feedback. In

particular, now that we're using remote tools for members to listen in, the feedback can get pretty annoying. We will now proceed with the meeting. I call upon Anna Bradford, senior manager at NRO, for any remarks.

MS. BRADFORD: Thank you. As you mentioned, my name is Anna Bradford. I'm the acting director of the division of licensing, siting, and environmental analysis in the office of new reactors. Again, as you mentioned, the purpose of today's meeting was for us to come and tell you where we are on a rulemaking that will affect 10 CFR Part 52 and Part 50.

The idea is to align those processes for new reactor applications, as well as incorporate some lessons learned over our years of using Part 52. We know that the committee has been very involved with a lot of implementation of Part 52 and Part 50, between your reviews and design certifications and early site permits and combined licenses.

We know that you probably had a lot of thoughts, maybe, on Part 52 and what could be improved or what we need to remove or clarify, anything like that. That was the purpose of today's meeting. The input that we get, we'll consider it when we are

developing the regulatory basis, which is the next step, as you'll hear. With that, I will turn it over to the project managers to give you more details. Thank you.

CHAIR SUNSERI: Thank you. James, floor is yours.

MR. O'DRISCOLL: Good morning. I'm Jim O'Driscoll, the lead rulemaking project manager on this activity. I am in the office of nuclear material safety and safeguards, division of rulemaking. Joining me today is Carolyn Lauron, senior project manager in the NRC's Office of New Reactors, Division of Licensing, Siting, and Environmental Analysis.

Also joining me today is Joe Colaccino, author of the SECY Paper 19-0084. We also have other NRC staff in the audience, as well. We'll have a brief NRC staff presentation, where we'll cover the NRC staff's scoping activities and items chosen for consideration in the rulemaking.

Then we will hand it over to the HRS members to hear their views on this activity. Please note that the list of ADAMS section numbers to the documents referenced in the NRC staff's presentation can be found at the end of the staff's slide presentation. Also, 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 that the NRC will not make any regulatory commitments during the meeting.

CHAIR SUNSERI: Jim, while you're turning the slides here, I just want, for the record, to acknowledge that Dennis Bley has joined the meeting. Thank you.

MR. O'DRISCOLL: Okay, sure. As Anna stated, the purpose of today's meeting is to receive the ACRS subcommittee's observations on implementation of 10 CFR Part 52 process, based on the subcommittee's perspectives from its reviews of early site permits, design certification, and combined license applications.

We hope this interaction will help the staff understand your views on this rulemaking activity. Your input will help us develop a regulatory basis for the rule that includes your perspective. We expect today's meeting will help the staff develop a high-quality inclusive document. We'll take this information, perspectives, and questions we'll hear today into consideration when developing the regulatory basis. We plan to hold

additional public meetings, as needed.

CHAIR SUNSERI: While you're taking a breath again, I would say we appreciate the remarks about security and, I'll call it OUO information. Help keep us honest on that. We take no offense to saying no, we can't go there.

MR. O'DRISCOLL: Okay, will do. Purpose of the rulemaking. The purpose of the rulemaking is to implement the commission's direction on SRM-SECY-15-0002. The goal of the rulemaking is to better align the Part 50 and Part 52 licensing processes, such that equivalent designs submitted for NRC review under each process are assessed against consistent technical standards that yield outcomes with equivalent demonstrations of adequate safety, security, and environmental protection.

In SECY-15-0002, issued in January 8, 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 to date. These changes are intended to improve clarity and reduce unnecessary burden on applicants and staff. The four alignment

items are more fully described in Enclosure 1 of SECY-15-0002. Examples of lessons learned, as they were at the time of the SECY's issuance, are described in Enclosure 2 of that SECY. As well as these, the staff has addressed or intends to address editorial and administrative changes, as well.

In addition, the staff is considering various transformational changes. In the context of this activity, transformational changes means a significant new idea or revised approach to an issue that has a potential to significantly reduce burden on the applicant and staff, while not compromising safety.

The project was deliberately budgeted to start in fiscal year '19. The staff commenced work last October. The staff's first task was to clearly define the scope of the regulatory basis for the rulemaking. From the staff's outreach efforts inside and outside the NRC, the staff collected a large number of items to consider for inclusion.

On January 15th of this year, the staff held a Category 3 public meeting to request feedback from external stakeholders. NEI arranged for a panel of industry representatives to attend. Using input from the staff, the stakeholders -- the staff aligned

on scope in July 11th. In late August, the staff issued information, SECY Paper 19-0084, which provided information to the commission on the status and scope of the regulatory basis. The staff requested input on --

MEMBER RAY: Just a second. Let me interrupt. Matt, do you want to go all the way to the end, and then come back?

CHAIR SUNSERI: No, we talked to him before. We can ask some questions along the way, make it a little more conversational.

MEMBER RAY: In going through what you've said so far, the material you've covered so far, I haven't seen anything that indicates that one of the -- that the circumstances recognized that we were talking about first of a kind experience. One of the reasons for alignment that's given in one of these documents you listed up there is that potential applicants are thinking that Part 50 might be best for first of a kind.

Certainly, although the -- a reason for Part 52 being created is given as better control over standardization, in reality, there was another reason, at least, which was to make available a one-step process, often referred to as one step. But at the

time, anyway, it was conceived -- and I can say this from a different perspective than I have now, which was in the industry at the time that it was developed, the idea of one step emerged from the post-TMI period for people like myself, who had a CP & OL at the time.

The idea, therefore, was to make it possible to have a one-step licensing process, but at that time, the people I was involved with never imagined that for first of a kind. To get back to my intended question, is there, in any of this -- I haven't seen it if there is -- the idea that maybe first of a kind wasn't intended to be used for a design certification?

Standard design approval exists under Part 52, and then, of course, you have the Part 50 process, which isn't usable by a vendor who doesn't have a customer, so standard design approval is the Part 52 alternative to design certification and was imagined, then, to be applicable to a first-of-a-kind design to avoid having to detail the whole plant design for certification purposes.

That's a long-winded premise. Let me boil it down just -- to what extent has the option of saying wait, we ought not to be trying to make design certification fit first-of-a-kind designs that have

never been built, and don't even have a plant customer, but rather, we should use standard design approval, for example? To what extent is that part of the discussion? I don't see it.

MS. BRADFORD: Do you want to take it, or do you want me to take that, Jim?

MR. O'DRISCOLL: Go ahead.

MS. BRADFORD: It's an interesting question, but more of a philosophical kind of question. We did consider -- we didn't want to go to the point where we were starting with a blank piece of paper for Part 52. We kind of wanted to work within the bounds that had been set up.

The SDAs are available. Applicants can use them. There's some applicants now that are considering standard design approvals, when I say SDAs. You can also use a custom COL under Part 52. I do want to point that out.

I know that there are some advanced reactors that don't want to go the design certification route. It will be a first of a kind, so in their mind, they're going to do a custom COL. A custom COL does not refer to an approved design certification. There are some flexibilities within there that have been really explored for advanced

reactors and laid out in, I think it's called the regulatory roadmap.

MEMBER RAY: Would you consider a custom COL a one-step licensing process?

MS. BRADFORD: I would.

MEMBER RAY: We're going to come back to this issue of one step versus two step --

MS. BRADFORD: I would consider --

(Simultaneous Speaking)

MEMBER RAY: -- later in the discussion, but I just wondered if that was the case.

MS. BRADFORD: Yes, I would.

MEMBER REMPE: There's another thing, when I reviewing this material, that came up. We discussed amongst ourselves. You used the term standard design approval. If you go back and look through things, really, there used to be final design approvals. There aren't many SDAs. Out of curiosity, when did the term change from FDA to SDA, and what happened? Because I --

(Simultaneous Speaking)

MS. BRADFORD: If I remember right, it was during the last revision of Part 50, which was about 2007, something like that. There used to be an Appendix O to Part 50, which talked about FDAs. There

was PDAs, which was preliminary design approval. There was several different terms, meaning different things. At that time, the commission, for whatever reason, decided they wanted to change the approach and they revised -- they wanted some flexibility, but maybe not the FDA, the PDA and all that. That's when the SDA went into effect. I think it was 2006-2007, something like that.

MEMBER REMPE: Thank you.

MEMBER RAY: To put a pin on what you just said, please, as you look at input now to this rulemaking, and as you look at experience and lessons learned, are there things that you say wait a minute, that's something that we would treat differently because it is a consequence of being first of a kind, and we're not going to change design certification to make it -- facilitate the ease of certifying a first-of-a-kind design, and then changing it later? We'll have more discussion about that later, I know, but has that ever been discussed or considered? Because I don't see it in any of the material.

MS. BRADFORD: I can't say that we started with the thought of how can we make first of a kind licensing easier. I don't know that was one of our thoughts when we went into what changes do we want to

make to Part 52. But if you have comments along those lines on what you think we should consider, we would be happy to hear those.

MEMBER RAY: Okay, we'll put that off until later. Certainly, lots of folks have observed first of a kind are unique when it comes to certification. As I say, at least from the perspective of where I sat 20 years ago, first of a kind wouldn't have been thought possible to certify. That's just history. Anyway, thank you for the diversion. Go ahead.

MR. O'DRISCOLL: To continue on Slide 7, this is on background. The staff requested input on the scope of the regulatory basis from a wide variety of stakeholders, including the general public, industry organizations and non-governmental organizations. In addition, the staff solicited input internally.

In all, about 250 separate scoping items were received. Staff initially screened each item to determine if it aligned with the overall purpose of the rulemaking. The item was screened in if it met at least one of the following criteria. It addressed alignment or requirements for the contents of applications submitted under Part 50 or Part 52, or it

addressed a lessons learned from new reactor licensing activities, or it was a potential transformational change that could significantly improve the licensing process or the change would clarify the regulations or reduce unnecessary burden and would not adversely impact other requirements.

The staff did a second screening of the items to obtain a manageable list of high-impact items. An item was screened out if it would provide neither a significant safety benefit or a clear burden reduction on industry or staff. Items were also screened out if they could be addressed through more appropriate processes.

If the item was judged to be an administrative correction, it was transferred to the agency's periodic administrative corrections rulemaking. If the item could be addressed through guidance, alone, without any changes to regulation, it was screened out.

In July, the staff aligned on the scope of the regulatory basis. The current scope consists of the four alignment items discussed in Pages 4 and 5 of SECY-19-0084. The scope also includes 52 lessons learned items listed in the enclosure to SECY-19-0084. Four of these are considered transformational in

nature. Eight administrative corrections identified during the final screening process were transferred to NRC's 2019 administrative corrections rulemaking. I'll now hand it over to Carolyn Lauron of NRO's division of licensing, siting, and environmental analysis, who will provide a bit more detail on the items.

MS. LAURON: Before I begin, I want to point out an error on the slide for Item Bravo. It should read develop, maintain, and upgrade a plant-specific PRA. The first time submit appears in that item should be deleted.

PARTICIPANT: Delete submit.

CHAIR SUNSERI: Which one is that? Oh, I've got the wrong slide, I think.

MS. LAURON: Item Bravo.

CHAIR SUNSERI: Which one is in error? Where's the error?

MS. LAURON: Item Bravo, develop, submit and maintain and upgrade a plant-specific PRA. It should state develop, maintain, and upgrade a plant-specific PRA.

CHAIR SUNSERI: Delete the first submit, I mean the submit?

MS. LAURON: Correct. Submit appears

twice in that item, on the same line.

CHAIR SUNSERI: Oh, okay.

MS. LAURON: Right.

MEMBER BROWN: Thank you.

MS. LAURON: You're welcome. In SECY-2015, the 2015 SECY, the staff discussed the following four alignment items, which the commission approved in its SRM. To apply the policy statement on severe reactor accidents to new Part 50 applications consistent with the Part 52 applications, which will require construction permit and operating license applicants to submit information on design features for prevention and mitigation of severe accidents.

The second item was to modify the licensing process to require all new reactor applications to develop, maintain, and upgrade plant-specific probabilistic risk assessments, or PRAs, to submit a description of the PRA and its results, and to maintain and upgrade the PRA throughout the duration of the operating license.

The third item is to modify the Part 50 requirements to provide prospective applicants the same exceptions to post-Three Mile Island requirements given under Part 52, and finally, to modify the Part 50 licensing process to require a description and

analysis of the fire protection design features and plans.

MEMBER REMPE: Oh, sorry. Watch out for the papers.

PARTICIPANT: Leave it on, just don't --

MEMBER REMPE: Go back to the prior slide, please. Just for my memory, could you remind me what the exceptions are for the 52 in Item C?

MR. O'DRISCOLL: There were some exceptions in that because I think 5044 -- we're talking about TMI stuff, right?

MEMBER REMPE: Right.

MR. O'DRISCOLL: That's hydrogen control. We issued a risk-informed rule in, I think, 2003 time frame. For new reactors, we were telling folks to follow that piece. We were accepting the hydrogen control items that were listed in 34(f). That was an exception. That's just one of them that I can think of.

MEMBER REMPE: Thank you.

MS. LAURON: For the lessons learned items, the staff is also considering revising the regulations as described in the enclosure to SECY-19-0084 in the following categories. PRA requirements as it relates to risk-informed

initiatives, operator licensing, based on experiences with Vogtle, security, based on recent experiences and applicability of requirements before fuel load, emergency planning to eliminate duplicative requirements, revise application of requirements, and provide clarifications, licensing process under Part 52, which includes several topics, design certification renewal and expiration date, aligning the design certification, early site permit and limited work authorization processes with requirements in 10 CFR 50.59, design scope and standardization, standard design approval, and content of applications, environmental review to allow for an environmental assessment for COL applicant and to submit the COL application in two parts, separating the environmental report from seismic, siting, financial, and emergency planning information, applicability of other processes to Part 52 to clarify the regulations that define applicability of other requirements to early site permits, design certification, and combined license applications, and finally, miscellaneous topics to remove outdated requirements and to clarify existing requirements. As noted in the recent SECY, some of the changes under consideration are transformational. These changes have the potential to significantly

reduce unnecessary burden on the applicant and staff. For example, modify the design certification renewal requirements and expiration date would preserve the ability of an applicant to reference a certified design until the applicant is ready to submit its application.

In another example, aligning the design certification change process with 10 CFR 50.59 and applying the definitions for tier information described in SECY-19-0034, would eliminate challenges for changes during construction. I'll hand it back to Jim.

MEMBER RAY: That statement you last said, eliminate challenges, right now, there's what's called a, quote, 50.59 like process that applies to Tier 2 information. At least I understand what's been said up until now, that wouldn't change. In other words, you have that ability today to make changes under 50.59 like criteria. It would just be extended to other things than just Tier 2 information. Is that correct?

MS. LAURON: I believe it would allow the -- under consideration, it would allow changes that would not significantly affect the safety of the change. Joe, is that correct?

MEMBER RAY: 50.59 has a bunch of criteria. You've got to go through six or eight of them, whatever it is, and decide if a change is required. If not -- I mean if an amendment's required. If not, then you go ahead and make the change.

You have to then update it in the FSAR when the FSAR is submitted or updated every two years. But when you said eliminate, it just seemed like a very strong consequence of extending the applicability of whatever it is you're going to ultimately do because it already exists.

I'm just asking the question, at this point, to try and get you to elaborate on is it something different than what exists today, or is it just being extended to other things? What are you referring to?

MS. BRADFORD: What we were thinking about there was, like you said, there's a 50.59 process that has a series of steps or considerations, and then there's the 50.59 like process, which has additional steps or considerations. You could say it's more restrictive than the 50.59 process. What we wanted to do was go back and look and see has that served us well? Is it a good thing for it to be more

restrictive? Are there reasons for it to be more restrictive? Should we make it even more restrictive or less restrictive, given our experience with construction in Part 52. It was just to look at it and see if we're in the right place with the 50.59 like process.

MEMBER RAY: At some point -- and this probably isn't the best time to try and do it -- there was elaboration on what I think you're referring to now in the January public meeting, January 2019 public meeting, talking about the notion that the licensee would be at risk for changes that would be made.

We'll come back to that later. I just was reacting to what she said about eliminate challenges because right now, we have a process. Changing the criteria or making it applicable to other things, I understand, but I don't think it goes so far as to eliminate --

MS. BRADFORD: Decrease challenges, maybe not eliminate challenges. You're right that it's a very strong word, but we can come back to that if you'd like.

MEMBER BLEY: I've got a couple questions on this one. One's kind of simple. Transformation has become a special word around here. You're using

it in its more traditional sense here, or do you think it's transforming the regulatory process for the commission?

MR. O'DRISCOLL: We're using it in the spirit of the efforts the agency is trying to do.

MEMBER BLEY: You are? Okay.

MR. O'DRISCOLL: We're trying to make ourselves a better regulator using the transformational philosophies that were the culture that's being put out.

MEMBER BLEY: It's kind of hard to see the transformational nature of some of this to me. The last one on consider reducing the requirements for standardization, we already have a process where a COL applicant can take exceptions or make changes to the standard design. What are you thinking about here?

MR. O'DRISCOLL: I think, just going back to what we were saying before, a little bit earlier, was that we just want to look at what standardization and our emphasis on standardization when we put out the Part 52 process and how well that's actually -- how important that is compared to its impact on licensees when they try to make changes. It's something that we want to just examine again and see if we maybe can de-emphasize the emphasis on

standardization in the change process, such that that would allow licensees to better make changes.

MEMBER BLEY: Okay. We haven't had anybody really get all the way through this thing yet, but we, here, have seen a number of COL applications. From the review point, if you accept the standard design, it flies through a whole lot easier. I'm not even sure what you're thinking about. It seems almost a tautology that works pretty well, even though we never built a plant.

MEMBER BROWN: There are two plants being built based on the design certifications we participated in, and there's a COL building the plans. I don't remember any --

(Simultaneous Speaking)

MEMBER BLEY: Changes have come in. I know they were the lead plant.

MS. BRADFORD: I think one practical effect of this is the LARs. Vogtle is building the two units right now, as you mentioned. They've submitted, I think we're at 164 license amendment requests. They have changed that design. When Westinghouse comes in to renew that design certification, it's expected that they'll take all those LARs and put those into the new design. Because

when it was constructed, they learned that these changes needed to be made. Reducing requirements for standardization, one thing it makes me think about is for every LAR, if you look at our safety evaluation, there's a section that talks about what's the effect on standardization, and does the effect on standardization, is it outweighed by the benefit that you're getting by making this change.

Every LAR there's a paragraph or two that talks about that. Is that worthwhile? We almost always say yes, they should be allowed to make this change, and it's not going to adversely affect standardization or the impact of standardization on safety. Is that the place where we want to be? That's what we wanted to stop and think about.

MEMBER BROWN: Is there a difference between how you treat a LAR for the new design as opposed to how you would treat or require a LAR for an existing plant?

MS. BRADFORD: An operating plant, you mean?

MEMBER BROWN: An operating plant --

(Simultaneous Speaking)

MS. BRADFORD: The operating plant, I would --

MEMBER BROWN: We're dealing with an operating plant issue right now, in terms of the digital I&C world. That pretty much governed -- the argument on that is 50.59 and the eight requirements or the eight items within the Item C. All I know is we approved -- we reviewed that final design.

We gave, whatever, the Betty Crocker Good Housekeeping Seal of Approval based on our letters, but none of the LARs that I'm aware of have raised to the level of massive change, where they had to be re-presented to the committee. I presume -- did they do that under 50.59, or was there some other change process part of Part 52 that they were allowed to do that? I've only seen Part 52.

Twelve years, I've never seen a Part 50 thing. I've never seen a PDA, an FDA, or an SDA, standard design application. It's only the design certs for the new design plants that we've gone through and one modification to Diablo Canyon.

MS. BRADFORD: One interesting point that may be flying under your radar is that, for example, the APR1400, when we finished the design certification, we also simultaneously issued an SDA. You guys actually have seen an SDA; it was just in parallel with the design certification. When we

finished the technical review, we sent out a letter -- it was only about two pages -- saying hey, we finished the technical review. We've gone through the ACRS. We've done all these things. Here's your standard design approval. Because they want that without having to wait for the year of the rulemaking for the design cert. I'll just point that out. In terms of the digital I&C, I haven't been following that particularly.

MEMBER BROWN: That's fine. I'm just trying to use that as an illustration of how -- a difference of how you go about doing things. That's all I was trying to understand. I never worked in the commercial world before I came here 12 years ago. My experience is rather limited. I listen to Harold and a few people who have operated plants fairly carefully to try to understand what the processes are.

MS. BRADFORD: The current operating directors aren't licensed under Part 52. They're in Part 50.

MEMBER BROWN: Right, I remember that.

MS. BRADFORD: They don't really have to require standardization the way the Part 52 plants do.

MEMBER BROWN: That part I do understand. Okay, I'll keep struggling. That's why I'm here

today.

MEMBER RAY: I don't mean to extend this, other than I need to, in this sense. Again, the word standardization is being used. It depends on what one intends or means by standardization. What I think of is one-step licensing of a certified design.

That process -- in other words, I don't need to come back and get your agreement that I've -- the changes I've made are acceptable because it's a one-step licensing process. Whereas, if I get a construction permit, I need to then get an operating license and tell you how I actually built the thing.

It's the absence of that second step in the presence of what I think you're calling standardization that is of greatest interest from my standpoint. In other words, are we -- again, I'll go back to the language used in the January meeting about being at risk, changes at risk would be subject to control.

The changes -- by changes at risk, I assume you've made a change. You think it meets the criteria for making a change without amendment, but I'm at risk now for having made that change. How is that risk resolved in the way that -- under Part 50, it's resolved at the operating license stage. I've

made changes from the PSAR. It's in the FSAR. I'm coming in and asking for an operating license. We've done it over 100 times and people have gotten their license. But now I don't have that second step anymore. One of the things that, at least, I'm here to try and figure out is what is that final step?

There aren't ITAAC that cover the issues. In the wording here in January, it appears that the licensee's -- in fact, it's called quality control program will be used to resolve the uncertainty. I'm just not clear, at all. The word uncertainty is used -- or at risk, excuse me, is used, but I'm not sure how the risk is resolved. With that, we probably should go ahead and come back for more discussion later.

MEMBER BROWN: No, I still want to -- based on your comment and Anna's comment -- let me --

MS. BRADFORD: No, go ahead.

MEMBER BROWN: I'm going to throw out -- this is a hypothetical. APR1400, as you said, has been approved and your SDA has been sent out. They don't have a construction permit. They don't have a licensee, so there's no COLs, etc., to go along with it. I'm trying to echo Harold's words here. If they make changes to that design in the interim before a

vendor, utility, licensee, whoever says I want to build one of those, are they supposed to come in with those, or do they just make those changes, as Harold says, at their risk, and then when they get a person who wants to use that plant design and submits their, I guess, ESP, and then their COL, and gets a construction permit, is that when those get addressed?

MS. BRADFORD: You could do either. KHNP could decide --

MEMBER BROWN: So like he said, it can be -- APR1400, KHNP could say okay, we're just not going to do anything until we have somebody ready to build the plant, and then we'll go argue whether we need LARs under some change venue, whether it be -- is that a 50.59 thing, then, or is it --

MS. BRADFORD: 50.59 like.

MEMBER BROWN: Where is 50.59 like defined?

MS. BRADFORD: It's in each appendix for each design cert.

(Simultaneous Speaking.)

MS. BRADFORD: Each design certification is appendix of Part 52. You look in there and it lays out the change process.

(Simultaneous Speaking)

MEMBER RAY: Let me just -- Charlie, let me just read the words here --

(Simultaneous Speaking.)

MEMBER RAY: -- because it isn't -- before construction. In the January 2019 document I'm looking at here, it says a recommendation is to modify the NRC interpretation to allow at-risk construction pending approval of an LAR or the processing of a 50.59 like change. It's those approvals or whatever acceptance of the processing of the 50.59 like change that I think we want to get a better understanding of.

MS. BRADFORD: I can explain that. Now that you read that sentence, I understand.

MEMBER BROWN: Where's the sentence from again?

(Simultaneous Speaking.)

PARTICIPANT: It's the public meeting in 2019.

MEMBER BROWN: It's in that list of ten pages of comments.

PARTICIPANT: Go ahead.

MS. BRADFORD: This is the difference between Part 50 and Part 52. Under Part 52, the way we've interpreted the language is that when you're constructing the site -- when Southern is constructing

the Vogtle units, if they realize they need to make a change -- the design cert says something. They realize they can't do it, or they don't want to do it, or it's too expensive to do it, and they want to do it a different way, they have to submit a LAR to us.

The way we interpret it right now is you pretty much cannot do that change until we have approved the LAR, unless you request a PAR. There's a couple little wrinkles to it, but in general, you can't actually make the change until we've approved the LAR. That's different than operating reactors. They can make the change.

What they're saying is can you please allow us, when we're constructing, to go ahead and make that change before the NRC has approved that LAR. If, then, the NRC says hey, what you've proposed here, we can't allow it; we're going to deny it, they'll have to go back and put it back to the original licensing basis. That's the at risk part.

MEMBER RAY: You're exactly right. What it said in the comment that was the recommendation for was NRC's position that as soon as a COL is issued, there is an approved licensing basis, and the licensee, therefore, needs to be in compliance at all times, regardless of whether there's any impact to

public health and safety. Clearly, that's something that's capable -- and needs to be revised. On the other hand, though, it is a certified design. The difference between a certified design and a Part 50 process that may be preceded by an SDA is that there isn't any subsequent review.

The blockage where you -- I don't have any problem with letting people proceed at risk. The only issue is is there going to be a leap ahead? Is there going to be an accumulation of all the changes that were made that has to, then, undergo review?

To me, then, you're just doing Part 50 by another name because that's what we did at the OL stage, and I've done it twice. You come in with your FSAR and you say here are all the changes I made from the PSAR. They look at them and say okay, operating license issued. It seems like that's where this is going, to me.

MS. BRADFORD: It's a good comment. We can take that as a comment and think about that when we're looking at the changes.

MEMBER BROWN: One clarification --

MEMBER CORRADINI: Can I ask a question?

CHAIR SUNSERI: Go ahead, Mike.

MEMBER CORRADINI: I guess I don't think

you've answered Harold and Charlie's question. Taking the comment in doesn't clarify for me what I thought Harold was asking. What does it resolve? Does it resolve by an ITAAC? Is it resolved by -- how is it resolved? I thought that was Harold's question.

MEMBER RAY: It is, Mike, but I thought we should probably discuss it and elaborate on it later, so that we don't lose -- I messed up the presentation here already. That's right. That's still on the table. I think she indicated it was a good question and we should pursue it further.

MS. BRADFORD: The short answer is when it is resolved depends on what the change is. In some cases, if they did it under 50.59 like and they determined they didn't have to come to the NRC, they keep track of all those changes, and our inspectors can go look at it.

Or it might be a change to something that we do use the ITAAC to go look at. Or it might be a change that they decided needs a LAR, and then we've approved that LAR. It kind of depends, is the thing.

MEMBER RAY: Yes, but we haven't gotten into the difference between Tier 1 and Tier 2*, for example. One of the issues that I've shared with my colleagues is in the past, there was always an

explanation of why these requirements existed. For example, in the case of Tier 2*, it was that it included things like codes, standards, and processes, analysis processes. We should hold that for later, I think.

When you get down to Tier 2* versus Tier 1 versus Tier 2, we're getting into the -- where we're just, I think, making inputs, and you're not going to want to answer us, just see what we have to say and take it back to think about it. Why don't you go ahead?

CHAIR SUNSERI: Let me interject right here. I think it's clear that there's going to be a lot more details that need to be fleshed out and developed as you make these changes. Some of our questions are hitting on some of those areas where I would imagine, quite frankly, the details don't exist and you're thinking about those.

We're not reviewing a final product. We're reacting to some of the things we see based on our experience. I would just suggest that you consider our input and our questions as maybe even cautions as things that have bit us before that you should be thinking about as you pursue the new rulemaking, not a direction that has to be this way or

that way. Is that fair? All right, thank you.

MEMBER BROWN: Can I amplify -- not amplify it, but -- one of my difficulties and the reason I ask some of these questions is it seems like these 50.59 like -- the PDA and FDA, the various little nuances are almost like little pieces stuck around in places. There's nothing that says if I'm an operating plant, I'm a linear thinker.

Bang, bang, bang, bang, here's what you do once you're operating. Forget all the other shafafa. For instance, I guess I'm aware operating plant's under Part 50. A Part 50 plant can -- like on the mass stuff, the INC, they wanted to change the protection systems. They can go do that. If they don't submit an LAR, they will do it after the fact.

They get dinged because somebody sees them doing something, then they come in for the approval or what have you, but they can do the at risk thing under Part 50, I presume, and they just take that chance that somebody's not going to like it. But all these other little nuances of how you do things, the processes for this type of circuit, they're not laid out. They're just kind of little -- go find some -- they're scattered throughout the entire Code of Federal Regulations. It's very, very difficult to

find a path for the circumstances that people keep talking about. Every time I sit in another meeting, somebody throws out another thing. It's just difficult.

CHAIR SUNSERI: Charlie, I would submit -- and maybe Harold will correct me -- but what Anna described for Part 52 is the same thing that the operating plants go through. We can do the 50.59 change. We can change tech specs. There's a process for that.

We can submit a license amendment request. The operating plants have a whole variety of ways that they make changes, as well. It can be -- that's why we have regulatory affairs people. They help keep us straight on which process to use.

MEMBER BROWN: My only issue is it's just scattered. That's all. There's not someplace that defines it and lays it out for each thing that may occur. I'll stop right now and we'll go ahead and finish the presentation.

MEMBER RAY: You don't make changes to an operating plant and just hope nobody detects it. You comply with the requirements. What she and I were talking about is the fact that you can't do that to a plant under construction, and you should be able to.

I don't disagree with that. But when you do it, then, the question is when does that difference get reviewed? Having it reviewed by the field inspectors is different than having it reviewed here, by staff.

We're really diverting us a lot from the path that I think you guys want to finish up on. Then we'll come back to a lot of this stuff. They are implementing the requirements as if it was an operating plant, and it's not. That's why it said, in what I read, there isn't any risk to public health and safety when you make a change to a plant under construction, as long as it ultimately gets approved. That's the question.

MR. O'DRISCOLL: Next steps. Briefly covering next steps, the staff will consider your feedback from this meeting as it continues to develop the regulatory basis. The staff will develop and issue the regulatory basis for public comment.

In order to be more efficient, the staff will address these public comments when it drafts the proposed rule. The staff will hold additional stakeholder meetings, as needed, during the development of the regulatory basis. Rulemaking schedule. The staff plans to issue the regulatory basis for comment in late August of next year. The

proposed rule will be issued for public comment approximately two years after this in June 2022, and then the final rule will be issued in July 2024. With that, we'd like to hear comments --

(Simultaneous Speaking)

MEMBER BLEY: You should know -- maybe you already do, most people do -- you're not getting comments from the ACRS today.

MR. O'DRISCOLL: Yes.

MEMBER BLEY: You're getting comments from individuals.

MR. O'DRISCOLL: Yes, and we appreciate anything you have to say.

MEMBER BLEY: It's a little hard to draw a real connection to safety from many of the things you're after. They're more process improvements, it seems to me. But one always needs to ask the question are we having an impact on safety by doing this?

MEMBER RAY: If we don't have any --

MEMBER BLEY: This level, we don't have a way to say yet.

MEMBER RAY: I think it goes to the question, Dennis, that I'm hoping we'll discuss further, which is what is the process for signing off on these changes? That's a discussion we ought to

build up a little more in an extended way. If you can make changes and they're never subject to review --

MEMBER BLEY: That's a safety question.

MEMBER RAY: -- that can be --

MEMBER BLEY: There are imbedded safety questions.

MEMBER RAY: It could be a safety question, right. There's one other thing that Harold's been talking from. One of the viewpoints of coming up with Part 52 was a one-step licensing process. One of the other things that drove it was the question of standardization because we had plants right next to each other that were quite different from each other.

You had to think about safety issues and operational issues at every different unit. It was the idea that if we had some standardization, that wouldn't be a problem. That hasn't been -- this didn't work the way I think some people involved in its development thought it would. We don't have a fleet of standardized plants. We don't have anything close to that now. Maybe that standardization issue, having to argue it each time, isn't very significant. It would have been a nice thing to have standardized plants. When you're developing first-of-a-kind

designs or substantial changes from previous designs and you don't have a customer, you don't get the depth of -- saying review is a little dangerous, but you really don't get the depth of challenging that you get when you have somebody wanting to build one.

When we had the last modification to the AP1000, you had a customer, finally, and there were all sorts of things that came up that when somebody's going to build one, nobody had really thought about. I don't want that in here. I don't want that in here. You had to make some big changes. I think Harold's right, at this point. It's hard to see that Part 52 is anything other than an alternative process to have one-step licensing.

MEMBER REMPE: Along your comment, one of the things I saw that we were provided to review was the staff's considering clarifying what they mean by an essentially complete design. I didn't see anything in your slides about that.

Before we get into our comments, could you -- I know you're about ready to think about a break here, but could you let us know, so we can thing, during the break, what are your thoughts on that? What are you going to do?

MR. O'DRISCOLL: I can go for that.

Essentially, what it means is that the definition of what an essentially complete design and what we are actually asking applicants to submit for design information seems to be different.

If you look at the SOCs from the 2007 rule, I think it was -- or maybe it was the first iteration of Part 52, which is, I think, '89 -- there was a definition or discussion in the SOCs about essentially complete.

But yet, in practice, we seem to be asking for information that, perhaps, may not be as important as needed to make a safety finding, essentially because -- and the reason to justify that information was basically saying you need to have a complete design. Somebody might say hey, I've got a completely non-safety-related system, but it's part of my design certification.

The staff has asked hey, I've got to review this thing. I've got to come to some kind of engineering conclusion on this, but I don't have any information, so I have to ask for that information. We need to try to fix that a little bit, trying to make the boundaries a little bit better for that. That's sort of what that's about. Does that make sense?

MEMBER RAY: But again, I think you're going to the -- what I'd illustrate to be a preliminary safety analysis, which has less complete information than a final safety analysis has. We've used that for years and years and years, but it's part of a two-step process, not a one-step process.

That creates a dilemma, then, if you're going to just do the PSAR and never do the OL FSAR, what are the implications of that? I know you're not suggesting that's what you're going to do. Don't tell me that I misunderstand.

I'm just saying you go into a direction in which you get closer and closer to what we used to do in a PSAR, leaving an undefined batch of information that used to be addressed in a Part 50 FSAR, and you wonder how's it going to be addressed? It's very hard for the staff, the ACRS, to come to a conclusion and say these are the five things I based my conclusion on, and nothing else.

Everything else can be whatever it is; we don't care. That's hard to do. I think that's where the essentially complete design idea came from was you can't just reach a conclusion based on these few things that we think are essential to adequate protection and not know anything about anything else.

I'm done with my preaching.

CHAIR SUNSERI: At this point, I'd like to --

MR. COLACCINO: If I could, I'd like to -- Jim did a good job, I think. I wanted to address the question directly. Essentially complete design is a phrase in the regulations that I think all of us are wanting a little bit of clarity on. We did write a paper earlier this year, SECY-19-0034, where we tried to tackle design certification content.

Some of the information you saw in the transformational slide, if I can call it that, was really captured in that paper. Essentially complete design, what we were trying to resolve there is that what we think it means -- at least, I'll say personally, now, what I think it means is that we would like to resolve all our safety issues with the appropriate scope and level of detail that comes in with the application.

Obviously, you can't -- trying to decide where that line is is challenging. That goes to your comment about you need, I'll use the word context, in looking at the application to ensure that not only all the safety issues are resolved, but that you have more than a preliminary design, you have a design -- let's

just take the design certification phase, where you can -- we then have confidence that we have finality on that design. Yes, we agree 100 percent. Anyway, that's what we were trying to -- I wanted to answer your question directly. That's what we were looking to go --- here you go.

MS. BRADFORD: One more comment. I think from the industry's point of view, the essentially complete design question, I'll say, also just directly relates to level of detail. Industry would say FSARs that they submitted to us 40 years ago were this big. Now, FSARs they submit to us are this big. Why is that?

Why is staff asking for more and more information? That's kind of the heart of the question is what is it, exactly, do we need to make our safety determinations? Can we make that clearer for ourselves and for the industry? It's a hard question. If you have thoughts on that, we'd love to hear them.

MEMBER RAY: It is because the growth has occurred as a result of experience, not anything else. You've got to somehow back out that experience and say we were wrong in asking for this information. Anyway, we should --

CHAIR SUNSERI: On this topic or a new

topic? We're going to take a break before we enter any new topics.

MEMBER BROWN: Just one that's on this topic.

CHAIR SUNSERI: Okay.

MEMBER BROWN: My brain's not that advanced.

CHAIR SUNSERI: Okay.

MEMBER BROWN: You commented that the AP1000 -- I think it was you behind my back, Anna -- during their construction process, which they are still in, they submitted over 100 LARs.

MS. BRADFORD: Yes.

MEMBER BROWN: I guess we approved the design certification when, six years --

MS. BRADFORD: 2011-12, something like that.

MEMBER BROWN: Seven years or eight years ago. How long did it take to -- all those approved, at this point?

MS. BRADFORD: Yes. We typically approve LARs in less than 180 days.

MEMBER BROWN: That's six months.

MS. BRADFORD: We can do it. Are you saying that's short, or are you saying that's too

long?

MEMBER BROWN: That's too long. How in the world can you build a plant if it takes 180 days --

MS. BRADFORD: What you're hitting on is exactly what we're trying to address with the changes during construction.

MEMBER BROWN: Let me amplify that. For 35 years, I worked in the naval nuclear program. I was involved in every construction project from the CGN-35, the Nimitz class 688s, the SSBNs, the Tridents, the Virginia class, the Seawolf, in every one of them.

I can guarantee you that our response when we had problems, if something wasn't right in accordance with the design, those got answered, in general, in days or weeks because the yard is -- down there, you're spending $100,000 a day watching guys suck air, not doing any work.

Six months, just in my personal opinion -- that's what I've observed based on a lot of comments and general discussion. That process takes way too long. The responsiveness is key to keeping the cost down for the people, as well as -- you obviously have to maintain safety, but how much mouse milk is paper

going back and forth? That's my term.

(Simultaneous Speaking.)

MS. BRADFORD: We haven't really gotten into it. We do have what's called the PAR process.

MEMBER RAY: Exactly.

MS. BRADFORD: You can submit a PAR at the same time you --

MEMBER BROWN: That's a preliminary amendment request? What's the --

MS. BRADFORD: Yes, a PAR basically lets you proceed with the change at risk before we've approved the LAR. The whole point of that is to not interfere with construction. That's the whole reason we put that process in place. We did not want them to have to wait six months because obviously, no construction site would want to have to do that.

There is a process where they can get a no objection letter from us saying fine, you can go ahead and proceed with that at risk while we're reviewing your LAR. There is a process for that. What you're saying in terms of restriction during construction, I agree with you. That is feedback we've gotten from the units under construction, as well as other parts of industry. It's one thing we want to try to address in this rule.

MEMBER BROWN: I didn't hear that.

MS. BRADFORD: We didn't go over --

(Simultaneous Speaking)

CHAIR SUNSERI: Okay.

MEMBER BROWN: I understand. It's part of the detail that we haven't gotten to, and this was an overview of what you're all --

(Simultaneous Speaking)

MEMBER RAY: Charlie, the at risk words in the recommendation here that I read earlier, in the thing I waved to you, that's exactly what she's talking about.

MEMBER BROWN: Okay. I'm just trying to understand. When I read it, I'm just trying to make sure I understood it --

MEMBER RAY: I'm just saying we did talk about it.

MEMBER BROWN: -- in your context.

MEMBER RAY: We did talk about it.

MEMBER BROWN: I quit. I'll turn off my Michael.

CHAIR SUNSERI: You were very sneaky in slipping in a different topic, other than essentially complete. We are going to take a break and come back at a quarter to, ten-minute break, short one. Then

that will allow for a smooth flow of the rest of the dialogue to completion. Thank you. We will recess until quarter to.

(Whereupon, the above-entitled matter went off the record at 9:34 a.m. and resumed at 9:48 a.m.)

CHAIR SUNSERI: Let's try this again. We are reconvening the session now. Before we go around the table or get started in the room, I'd like to go to the members that are on the phone or on Skype and see if you guys have any input or questions at this stage.

MEMBER RICCARDELLA: Yes, this is Pete, Matt, can you hear me?

CHAIR SUNSERI: Clearly.

MEMBER RICCARDELLA: I have a question on Slide 13. Could you perhaps show a little -- go into a little more detail of what's intended on that first sub-bullet regarding DC renewals?

MR. O'DRISCOLL: I think I can speak to this a little bit. Basically, we're trying to see what the value is in the DC renewal process. We have a DC that's currently under review. We're trying to see -- based on our activities to date, we're trying to see what, if any, safety -- importance to safety decisions we've been making for that review that would

validate the amount of effort that we have spent on that review to date. Go ahead.

MEMBER RICCARDELLA: Yes, I've got a similar concern because we are in the process of doing an ACRS review of that renewal. In the spirit of transformation, it's not something that we'd really prioritize and do, but our ACRS staff has advised us that no, it's a regulatory requirement review DC renewals. While you're in the process, could you take a look at that requirement?

MR. O'DRISCOLL: Yes, that's precisely what we're doing.

MEMBER RICCARDELLA: Thank you.

CHAIR SUNSERI: Okay, I think Mike had to step away. How about David or Walt? Any comments from you guys?

MEMBER KIRCHNER: This is Walt. Hello?

CHAIR SUNSERI: Yes, we hear you.

MEMBER KIRCHNER: I want to go back to the essentially complete discussion. I think a fundamental issue that I see -- and I would associate myself with Harold's early comments on this -- basically, when you go back to -- this was -- these goals were put in place for 52. In particular, I'm looking at 52.41 scope. There are two sections. The

first one is where we find essentially complete, which isn't defined in those definitions. Basically, we're talking about designs which are evolutionary changes from LWRs with design, licensing, operating experience.

That's part -- I think it's B-1. Then B-2 opens the door to something that I feel is going to be very problematical. I think we're seeing it already. That is Section 2, under scope there, says designs that differs significantly or use simplified, inherent passive or other innovative means to accomplish safety functions.

It stops short of what is implied in Section B-1. B-1 essentially implies a level of maturity and experience that is not going to be present with an advanced reactor trying to use 52 process. One suggestion is that the second item, B-2, needs something that's parallel, if you will, to what is implied in B-1.

The parallel that I could see would be that it's been demonstrated in a prototype plant. If you go, then, and look at the definitions for prototype plants at the beginning of Section 52, you will find that a prototype plant is defined as a nuclear power plant that has new safety features

similar to first of a kind or standard plant design in all features and size. I underscore that last phrase, all features and size. It seems to me that there's a fundamental problem.

Obviously, this is personal opinion, but my sense is that the applicants with advanced designs, particularly when there is not a prototype plant, should be redirected through the Part 50 process, not the 52 process or the 52 COL process, which is another option. It just -- it wasn't written for that purpose.

Now we're trying to make it embrace a broader purpose than was envisioned, I believe, when these regulations were first promulgated. Just a second point is that the 50.59 process also has basically been used for plants where we had -- first of all, the plants have an FSAR, which you don't have the equivalent of for an advanced design that's seeking a DC.

I really question the appropriateness of the 50.59 process being used for a design certification that's trying to squeeze through the 52 process. I don't think that was the original intention. I don't think it's a good fit for the issues that are safety related that the agency is

charged with dealing with. And then just one quick last comment. You know, on this essentially complete, if anything -- I'm not the PRA expert, but one thing that we've learned is that it's often other systems and integrated systems performance that, at times, may be more dominant or significant contributors.

If we get a design that just focuses -- and I'll make up an example -- on the reactor or on a plain advanced passive inherent safety features, but we don't know how the rest of the systems integrate with that system, it's an incomplete picture, in my mind, to use the certification -- whether it's a standard design or a DC. It seems to be a poor fit. That's my input. Thank you.

CHAIR SUNSERI: Thanks, Walt. Just for the record, Dr. Corradini did send me some input. That is in reference to the comments that Charlie was making with the license amendment request taking 180 days. I know that's an approximation. His belief is that's an area that improvement would be warranted to shorten that time frame to be more timely with respect to the applicants' needs. That's another input for you.

MEMBER RAY: I got that, too. I hope he gets back and we're still here because I'm not sure he

understood that the intent is to allow work to proceed and that the issuance of the LAR approval simply takes place in due course, and it doesn't --

CHAIR SUNSERI: Yes, but I think the point --

MEMBER RAY: -- hold up construction.

CHAIR SUNSERI: The point being, though, that you're at risk for six months. It would be nice to have the risk uncertainty removed.

MEMBER RAY: For sure.

CHAIR SUNSERI: Now, back to the discussion. Our last topic was along this notion of what the design means to be complete. Do we want to continue with that or pick up a new topic?

MEMBER BLEY: I want to stay with that for a minute. Walt said it a little differently than I was going to, and Harold's point that we used to, with the two-step process, you had the PSAR, and then the FSAR that got reviewed.

Essentially complete's really technically hard to define. I want to talk two kinds of systems, the pumps and pipes and valve systems, and then the digital I&C real quickly. What we've all seen from single failure kinds of reviews and from PRAs is the real problems -- the places where things go wrong are

in the details of the design. If you have a simplified piping diagram that shows that the functions all ought to work right, but you have cross connects that aren't in there, and you have instrument tops that aren't in there and things like that, when you do the detailed analysis, those things crop up and the interfaces, where one system interfaces with another.

That's where the risk lies. If you don't get a good hard look at those, if those aren't there, you don't have an essentially complete design from a safety point of view. Digital I&Cs also come up with a nice set of high-level concepts that if you meet those, you get a lot of confidence. I've been involved in that.

You do, but that only translates into a safe design when it's detailed and complete, when you have taken that final design and played it against all of those high level criteria and are convinced it's working. If that's not part of the licensing review process, then we don't have oversight, at least, on that. Those are real hard to do without the details.

MEMBER BROWN: Can I amplify your comments?

MEMBER BLEY: You can do anything you

like.

MEMBER BROWN: The framework we've been trying to use, just for an example -- this is just one area. The digital I&C seems to be a controversial area in a compliant from licensees across the board.

The framework approach we've taken, where we get at least an architecture that shows what it looks like, then we've attempted -- I think we succeeded in the later design certifications, a little bit less than the ones 12 years ago, when we were still trying to figure out what we were doing -- is that there are touchpoints within that architecture which, if they comply with the terms specified as part of the DCA, the design certification, and the DCD, the document that calls them out, which then gets, I guess, subsumed within the rule when you finally get your appendix, whatever appendix is approved for that design, if they remain within that framework and they don't change those specific touchpoints, you might consider a little bit more freedom of operation within that world when you've got a framework that tells you hey, you meet these principles, you're okay, and you've got them defined, in terms of the general architectural concepts within the licensing basis that you can be pretty flexible on that. You don't have to

be quite as contentious. Can that apply to other areas? I don't know. Does that work somewhere in the piping systems or fluid systems? I don't know. All I did was work on the stuff I had some more detailed knowledge of.

I don't know whether that's productive to look at that from an NRC standpoint, as an approach to how do we deal with longer-term concepts of how the plants are designed and will that allow us to be more responsive and more flexible, in terms of how we do business. It's just a thought process. That's all.

CHAIR SUNSERI: If I could summarize your point, there, you're saying that from a safety preservation versus the constructability timeliness and all that stuff, the 50.59 like process, if it had an appropriate set of criteria in there that allowed the process to handle these kind of changes that didn't have a profound impact on the safety determination, that's the key.

That's the key is what are those criteria? How are they going to be broken down to allow, what I'll say a resident inspector or on-site inspector to pass the judgment versus the vast knowledge of the staff here to pass the knowledge or to pass the judgment on it, right?

MEMBER BROWN: Right. One of the reasons I tried to do that when I first got here, the first plant we looked at, fundamentally the DCD said we're going to meet IEEE spec requirement, every reg guide requirement. In the guide, the architecture was four lines with a couple of boxes in it which said we'll trip the plant when it's not okay.

Fundamentally, what that broke down to is you go look at each of those IEEE standards, international -- IEC, whatever they were, as well as the reg guides, there's probably 100 or more specific little detailed requirements.

I equated it probably a little bit too much so, but enough for the example of trying to evaluate a design by looking at how the cam shaft is designed or how the brake pedal was designed or how the carburetor injection valve operated.

Once you've approved all those little pieces, you know what the car looks like, when you don't really know what the car looks like. We translated it up to a higher level. Can you do that in relation to the fluid systems and/or other -- the other systems in the plant which provide that? That's how I reviewed when I first -- I didn't have any idea how I could ever provide the committee with a

recommendation on hey, do I think this stuff is okay? It wasn't because I was brilliant; it's just because that's the way I had done stuff in the past, in the Navy program. We had a lot of details, but we still had an overarching architecture within which we operated, which gave us some confidence. Anyway, that's just a little background.

MEMBER RAY: Matt, can I --

CHAIR SUNSERI: Yes, let me --

MEMBER RAY: -- pick up here?

CHAIR SUNSERI: -- right, just one second. I know Dennis has some time restraints today. I'm not sure what those are, but you have any input?

(Simultaneous Speaking.)

MEMBER BLEY: I wanted to hear something about Tier 1, Tier 2 --

PARTICIPANT: That's exactly --

(Simultaneous Speaking)

MEMBER BLEY: -- Tier 2* and where they're headed with that, what they're thinking about.

CHAIR SUNSERI: Okay.

MEMBER RAY: Thank you. I appreciate that Dennis's time constraints need to be considered here, but SECY-17-0075 did a very thorough review of why Tier 2* exists and considered explicitly whether to

abandon it or keep it. It refers back to 23 years ago, in '96, when Tier 2* was established, at the industry request, to get things out of Tier 1, but not make them -- not subject to review when change was needed.

It isn't explicit, of course, in the current rulemaking, what will be the outcome, but I would just urge that the reasons why it was decided in SECY-17-0075 to keep Tier 2* need to be explicitly addressed when we decide those reasons are no longer applicable.

I think the point's been made here already; one of the reasons was that -- now quoting from 96-0077 -- Tier 2* was intended to preclude changes in, quote, codes, standards, and design processes without NRC approval. That's just one reason.

I don't know how it's actually been implemented recently, other than to say that in the SECY-17 that I referred to, it says -- I'll just read this. Staff review finds that most 50.59 like reviews and Tier 2* information changes, when performed by the staff, would trigger the need for prior NRC approval. That's what it says. Therefore, the Tier 2* designation might have been unnecessary because,

presumably, the license holder would have come to the same conclusion without designating as Tier 2*. But then it goes on to say but maybe the licensee would have come to a different conclusion and, even though it should have gotten prior NRC approval, it would not have.

Because having done many, many 50.59 evaluations, which is almost the same thing, they are, in many ways, subjective, in terms of what their outcome is. Best judgment is used, I think, in all cases, but the upshot is that there's a strong, lengthy analysis of Tier 2* and its reason for existing and whether it should be abandoned.

The conclusion is reached that it should not. That was just two years ago, and it said it was based on AP1000 experience. If a plan now would be that now we don't need Tier 2*, it's going to -- in my judgment, the committee will want to see how has your analysis changed, and why?

That's just input for you. I don't expect you to answer me now because you haven't decided what to do. There's a strong explanation, I think -- like I say, it's a long SECY explaining why we need to keep Tier 2*. I don't feel strongly one way or the other about it. I do feel that the ability to proceed at

risk is important. But the thing that I am still searching for and I want to give Dennis a chance to speak up here us what is the milestone equivalent to the OL review in Part 50?

I've already conceded that ITAAC are established for the reason that there are things that need to be checked off before the operating license can be made effective or fuel loading can occur, but there's a lot of hand-wringing and agonizing over ITAAC, also. There's a strong desire to avoid review.

Yet, we're -- I'm talking about at the OL implementation point. But what's going to happen? Matt referred to the on-site resident folks reviewing the 50.59 like process as it takes place. Is it going to be suggested that that's sufficient or that it'll be reviewed in the FSAR that's submitted at some time after the plant goes into operation?

Those are things that I think need to be addressed in the same forthright way that SECY-17 addressed why Tier 2* should be kept.

MS. BRADFORD: Let me just make sure -- what I'm hearing you say is that we need to make sure that the correct regulatory footprint is maintained on changes, especially those that are important to safety, yes?

MEMBER RAY: Perhaps, but I'm even more interested, as I keep saying, in how do you -- as we allow more and more deviation from the certified design and we're getting to the operating license stage, we check off the ITAAC.

Is that it, or is there something else that's going to happen as a result of the increased -- the illumination, let's say, of Tier 2* and getting closer, as I used the analogy earlier, to a Part 50 OL review.

Is there anything going to happen, other than those that are established at the COL stage, by means of the ITAAC and the DAC, to ensure that everything is satisfactory before the plant goes into service? That's the thing that I think needs to be addressed. I think it's talked about pretty well in the defense of Tier 2* retention just two years ago.

MS. BRADFORD: Okay, thank you, good comment.

CHAIR SUNSERI: Dennis.

MEMBER BLEY: I guess I'd follow that up. I agree with Harold on that. That's never been specified. The closest it came was back when there were a lot of DAC in an application, design acceptance criteria. We kind of argued that -- we did argue and

wrote at least one letter, maybe a couple on this, that said -- it's almost like the emperor has no clothes.

The design, if it's really incomplete, and it might be for reasons that technology's changing fast, whatever those reasons, once you get to the final design, and when you're building the plan, the spot checking of these DAC with their parallel things in ITAAC now, and then in that final design, by an inspector, wasn't really the same thing we get when we do a review looking for those -- the details.

It kind of reached the point on those that the staff had agreed that what they really mean by the inspection is that on the DAC, the staff here, in the area of expertise, would review it carefully and cooperate with the inspectors, and there was an SRM from the commission that said, in the first few cases of those, you ought to come back to the ACRS and we'll see how the process is working.

We never got that far. We almost did a couple times. It's the same point Harold raises. What's like an operating license review after the design's all done and you're building a plant? Somehow, that's got to be covered. I have one other thing you haven't talked about. I'm sorry I didn't

bring examples. As we've gone through design certs, we've hit places where we've said what will happen -- how will this track on once the plant's operating? There's been a little bit of oh, it'll be covered by Part 50.

Oh, we'll work that out later. You didn't talk about those kind of things, where there's gaps between what's done with operating plants and what's done through the Part 52 process, all the way up until the plant's operating. Somewhere, that needs to get clarified. I don't know if it has anything to do with this, but it was talked about at the time as reconciling some differences between 50 and 52 or having pointers that get you out of this.

MR. O'DRISCOLL: That sounds like the alignment side of the rule. And the idea, again, is to -- when you have two plants out there essentially just -- if somebody chose one or the other post issuance of license that it would be treated the same way. The same regulatory outcome would come for the various systems that they have. That's the goal of what we're trying to do when we say alignment.

MEMBER BLEY: Okay, that's good because now -- I'm sure it will work, but if you do it for one plant or two, it's okay to kind of do it ad hoc, but

having a process laid out through what you're doing, it makes a lot more sense in the long run, I think.

MS. BRADFORD: The other thing I would add to that is once they are an operating reactor, they will move over to the reactor oversight program, just like the operating reactor. They will be subject to all those same programs and requirements and all that. We have been planning for that.

MEMBER BLEY: That's about all I wanted to put in there, Matt.

CHAIR SUNSERI: All right, great. Vesna, you have something?

MEMBER DIMITRIJEVIC: Yes. My main reason why I came to this meeting today was because I'm the PRA expert. I was very interested in 50.59. I thought it would be very beneficial to apply this earlier than later, especially because most benefits will be realized through the procurement in the construction phase.

Plants are, of course, very interested in that. That means sitting here, we're talking maturity of design, maturity of PRA is even more -- because not only does PRA depend on design, but also depends on the MITONs and things that develop through standards, things like that. We are definitely not going to have

a mature PRA if we -- if this is what we are expecting to use the 50.59. The question is, which I couldn't really answer because first, what I asked -- okay, this is what I really asked myself. I don't know how to answer the question.

My first question is let's say the systems are now divided by the current domestic rules, you don't have a scientific base. They're based on experience. There is some common sense smart engineering judgment rules which are currently used in industry to divide the safe activities with non-safe.

We now introduce a new element. We have these new rules. I don't really see any reason why is one better than the other, independent of maturity of the PRA. That is because regulation was throughout the risk informed approach, but actually is not risk informed, is based on the domestic rules.

I cannot really judge one versus another. I know in the area of in-service inspections, the domestic rules were totally unapplicable. The only thing I cannot really have, because I don't know what's the right answer, and I can see what Dennis say. We can learn so many things through the PRA. We can find outliers; we can fix them. If you look in the current PRAs, we will find outlier like for large

locus and we will say put that WS thing inside containment. Now, everybody does that. Would we ask for them to fix such a big outlier? The question is how safe is safe enough? Nobody knows answer to that question.

If somebody comes with a plant which has a ten to minus nine risk, why do we have to impose all of these requirements on that? Maybe we should just identify, first, what is new, does what is new work, what is important, and how they maintain important things.

That's why I thought maybe -- when Harold said maybe we can put some simple rules to maintain. But the thing which I was thinking we definitely can do -- I mean you (Laughter) -- which I was thinking you definitely can do -- because the NRC, sometimes they identify questions, they discuss them, and then they just close the eye and leave them like that.

That's the no way, in my opinion, to address for the advanced reactors. When you see -- there was so many discussions what risk measures should be used relative or absolute. Not any conclusion was ever made. How does -- we have a very loose connection between CDF -- first, we never even defined what's large from these because that also

hangs in there. We have a very loose connection between quantitative goals and CDF and others. Now, when the plants come which may not have a CDF, it will be very interesting to address this quantitative half goal because we are definitely not imposing higher risk than 0.1 percent on public with anything which comes with those.

If our goal is not to impose higher risk than car accidents, chemical industry, then we can define more general measures. I was thinking that commission should have the question of unanswered things hanging in the air.

Maybe not all of them can be answered, but at least we really should know what they are and how much they will buy us in streamlining a regulation for advanced reactors. That's all what I can say. It's not really -- I don't really know how all of this can be addressed. It's definitely a complicated issue.

MS. BRADFORD: Just process wise, I would say we are going to do a separate rulemaking for advanced reactors. We're calling it Part 53. What it's really called, I don't know. Maybe it's going to address some of that. I don't know. It's even at an earlier stage than this rulemaking. I would recommend that you stay involved with that rulemaking, also,

because I think it will address those types of things for advanced reactors, specifically.

CHAIR SUNSERI: Thanks, Vesna. You have --

MR. O'DRISCOLL: Yes, I was just going to say the PRA angle on this rule is we at least want to have the Part 50 folks that use that process to have the same requirements for quality and upgrade on their PRAs that the Part 52 has.

MEMBER DIMITRIJEVIC: I know that, but that's --- you know, like with that part, many times it says Category 1 based on the PRA standard is enough for design certification, but nobody actually use the PRA. I know the EPR did, right, went to peer review, but it's too early to peer review PRA in design certification phase.

If Category 1 is really low category, you can go in much less details than any PRA which is review goes. Most of the PRAs are coming in Category 2. This is like the quality requirements the PRA should be how we define them. What's a quality requirement? PRAs are so complex and everything, if the operator flips the rings in Beijing, all the numbers change in importance and everything. It's a sensitive thing. Obviously, it's too complex. It's

too complex, so maybe the rules for the quality could be simplified. That's definitely one of those things which grows and grows, the volumes, in some way that makes easier for it to support important thinking in the process.

CHAIR SUNSERI: Harold, do you have any more input?

MEMBER RAY: Yes, I guess -- let me -- I've said all I'm going to say about Tier 2*. Let me offer another perspective. Let me say I did serve as the AP1000 subcommittee chairman. I went through a lot with not just plant Vogtle, but also other plants, at the time.

I think that it would be a good idea if somebody, whether it's the NRC or not, could offer the idea that the initial first-of-a-kind plant constructed under Part 50 with a CP and OL, is then a perfect basis for a very smooth one-step process on follow-on plants.

Personally, I don't want to see design certification changed, not because I'm a standardization person, but because I don't want to see it changed to the point that we don't really have a one-step process anymore for follow-on plants. I think it's a mistake, personally, to apply design

certification to first of a kind, for the reasons that we talked about. If I were in a position of a design vendor without a licensee customer at the time, and I wanted a product that I could market, I'd go for SDA. Then you can use that either in Part 52 or in Part 50 for the first plant.

These options, I don't think, are being adequately described in response to the outcry of difficulty that plant Vogtle has experienced. Instead of saying well, the lesson learned here is do the first one as a Part 50, and then certify the design or get an SDA, whichever way you want to go -- licensees, by the way -- we had a design center for AP1000 during the time before certification, in which there were multiple perspective operating license holders -- they have different views.

They have different ideas about how much money they want to invest for benefits that accrue to their constituents down the road. They don't really like a complete plant design, essentially complete plant design, that they have to comply with or get amended, in many respects, because there are things they either want to minimize the capital investment or they want to make more investment to make maintenance easier, all kinds of reasons why that's the case.

Standardization, to me, doesn't have the enormous appeal, but the one-step process does, provided it's not first of a kind. That kind of summarizes my experience and views on it. I just wish that idea was promoted more widely.

I think SDA is a very good opportunity or option that a design vendor has when he doesn't have a customer and he's got a design concept that needs some sanction in order to market it. Get an SDA. Yes, it's not, then, an automatic one-step licensing process that you go into the way you do with a design cert, but it is something that the NRC's not going to change their mind, in my judgment, on what they've approved in your SDA.

It's something that is of value and will expedite the first application of the plant. I think there are options to what we're seeing take place or what has taken place, in which I have an essentially complete design without a customer, and then either adhere to that or go through some painful change process on this first-of-a-kind application. That thought needs, somehow, to get into what the agency is talking about here.

MEMBER REMPE: Harold, let me push it further. Why do they need a Part 53? Why not just

say -- or make a very simple paragraph for Part 53, go get an SDA?

MEMBER RAY: I can't opine on Part 53. I just haven't spent enough time to do it. It may be the solution I'm talking about. I don't know, Joy.

MEMBER REMPE: Let me ask the staff this. What's the difference between what you're thinking of on Part 53 versus an SDA?

MS. BRADFORD: One thing I would say, I agree with what you said, in terms of flexibilities within the licensing process. But everything you said can be done right now.

There were applicants a few years ago, I think maybe (Simultaneous Speaking) Power, who were going to apply for a construction permit, build the first one, get it the way they wanted it, and then apply for a design cert, and then have the design cert, and then subsequent COLs could refer to that design cert.

They thought that was the best way to go. There's other applicants that want to do SDAs, also, for the reasons that you said. There's some that --

(Simultaneous Speaking)

MEMBER RAY: Excuse me; let me interrupt. When you say applicant, I think you mean a design

vendor, as opposed to an operating license holder.

MS. BRADFORD: If it's a CP --

MEMBER RAY: They're two different groups of people.

MS. BRADFORD: If it's a CP, it's an applicant. If it's a design certification, it's a vendor. It does depend which one you're talking about.

MEMBER RAY: Okay, you mean a CP as -- you mean a license applicant.

MS. BRADFORD: Yes. All those options are on the table. Like you said, a lot of times, it's their business case that will drive them to take one or the other. We don't tell them which one to do. There's advanced reactors now that are going to use Part 50, or they say they might use Part 50. There's some that want to use Part 52.

MEMBER RAY: Forgive me, if I read this SECY on this rulemaking, I'd say oh, my gosh, this is going to get really simplified. It's going to make it so -- yes, I can get a design cert for first of a kind and it's not going to be a problem.

MS. BRADFORD: I will say NuScale's first of a kind and they're getting a design cert. They're in the process right now.

(Simultaneous Speaking.)

MEMBER RAY: We've been through that, and we've going through it, so we --

(Simultaneous Speaking)

MS. BRADFORD: Right, and I'd offer --

CHAIR SUNSERI: I don't think we want to bring in any specific --

(Simultaneous Speaking)

MS. BRADFORD: No, I'm just saying as an example, that's a very different design, and they are going for the design certification. That's what they've decided to do.

MEMBER REMPE: I would also offer that maybe their experience may lead to them having to have a standard design for the first of a kind that's built. Maybe that knowledge should be factored in.

MS. BRADFORD: Say that again.

MEMBER RAY: SDA, in other words.

MEMBER REMPE: They may want an SDA before they actually do it.

MS. BRADFORD: Like KHNP did, right? Like I said, when we issued --

(Simultaneous Speaking)

MEMBER REMPE: It may be different from what's the certified design. It may be.

CHAIR SUNSERI: In my mind, there's not much technical difference between an SDA and a design certification. The main difference, in my view, is that the design certification has finality, which I think would have a lot of value to a designer because otherwise, if you're just going with the SDA approach that doesn't have the finality, then you're essentially doing what we've been arguing against as proceeding with design at risk because then, you're going to be negotiating throughout the construction phase, maybe like a Part 50 --

(Simultaneous Speaking)

MEMBER RAY: Part 50 has a lot of design at risk --

(Simultaneous Speaking)

CHAIR SUNSERI: Yes, but if you're -- I would think -- I don't know if it's just me. I'm not in this business, but I can wrap my head around it. If I was a designer and I was trying to sell one of these things, I'd want to sell one with some finality to it, not open ended. That's been the industry issue all along, I thought.

MEMBER RAY: Sure, but if it's the same investment required -- that underlies what we're talking about here. As we make changes to what's

required for a design cert and make it closer to what's required for an SDA, you're right. But that's part of the issue here is should we do that and, if we don't do it, because we can't, is there an alternative? You would agree, I think, that the SDA is an alternative, and if it's a lower-cost alternative, it might meet the vendor's goals and needs.

CHAIR SUNSERI: Yes. I don't know how -- I probably don't need to respond on this or not. The difference in cost between an SDA and a design certification -- I'll just reflect the cost in man hours versus dollars or anything like that -- it sounds like there's an interest there that if I'm going with an SDA, I'm not going to give the same -- they have virtually the same scope, right?

PARTICIPANT: No.

MS. BRADFORD: They don't have to.

PARTICIPANT: No.

MS. BRADFORD: The SDA can focus on -- it can just be a major portion of the design they can ask for an SDA, or it can be for the whole design, like the APR1400.

CHAIR SUNSERI: So it can be a limited scope, which then increases -- all right. I withdraw

my comment.

MEMBER RAY: In other words, if you have a concept that you can't sell because people are doubtful that the NRC would approve the concept, you can bring it in as an SDA and get it addressed. If it's approved as an SDA, you've defined the scope. The issues within that scope, presumably, they don't have certainty, but they have gotten agency approval.

MEMBER BROWN: Where is an SDA defined? Is it under Part 52?

MS. BRADFORD: It's in Part 52.

MEMBER RAY: Part 52.

MEMBER BROWN: Is Part 52 a design certification process?

MS. BRADFORD: It's several different processes for new reactors.

MEMBER RAY: Charlie, listen to me.

MEMBER BROWN: I am.

MEMBER RAY: It's a section of the regulations. You can get an SDA and use it in Part 50, or you can use it in a Part 52 COL application, either way.

MEMBER BROWN: But it comes under the Part 52 rule.

MEMBER RAY: That's just the way the

regulations are organized.

CHAIR SUNSERI: I just remember when we were doing the last applicant that we had a table that showed what was the design certification requirements versus the SDA requirements. We matched them up, and they were virtually the same, with the exception, now, I clarified, is that they were applying for a full scope versus a limited scope. I get it now, thanks.

MEMBER DIMITRIJEVIC: If they're applying for limited scope, where does full scope get reviewed?

MEMBER RAY: In a Part 50 application, it would get reviewed at the CP and OL stage. In a Part 52 application, with an SDA, it gets reviewed at the COL stage.

MEMBER DIMITRIJEVIC: Basically, a review process of course is the same, it's just -- maybe same, or maybe it's more in one case. It's just divided differently. Is that the issue?

MEMBER RAY: No, the design cert, we're talking, Vesna, about essentially complete design. An SDA does not have to be an essentially complete design.

MEMBER DIMITRIJEVIC: I understand, but I'm just addressing the caller thing, then is applicant -- full design has to be reviewed somewhere, right?

Sorry, I'm not -- I'm new in NCRS, too. So regulation is not my strong point. The full design, complete design, has to be reviewed before the plant goes -- the fuel load and things like that. If it's not reviewed in SBA, it has to be reviewed in the next stage, COL stage. The thought, of course, or burden or time is the same, right?

MEMBER RAY: But it's paid for by different people. That's --

MEMBER DIMITRIJEVIC: That's what I was saying. It's just paid by the different people --

(Simultaneous Speaking)

MEMBER RAY: But that's a big difference. If you're a vendor seeking customers, your investment's at risk. If you have a customer and the customer is building a plant, it's very different.

MEMBER DIMITRIJEVIC: Okay, I understand. I was just thinking if we were -- we don't really care we saving money for vendor or we are saving money for caller as the regulator, if we have to save money to industry. We don't care about division. I understand benefits of this --

(Simultaneous Speaking)

PARTICIPANT: We're not trying to save money. We're trying to explain why there are options.

MEMBER DIMITRIJEVIC: No, I don't mean to say we want the process to be faster, more efficient, and I support that, that we want this process -- okay, what I just want to say is there some way that we can just streamline review, so review is not so burdensome?

MEMBER RAY: That is an issue. I would suggest, for example, if you want to get into streamlining review, that's a discussion that is going to take place, obviously, but an example of it is the Tier 2* discussion I had. Look at the SECY that describes why we have Tier 2* and say we don't need that. We don't need that.

The important thing, I think, is that design cert should be preserved as a -- as somebody who argued for it 25 years ago, it should be preserved as something of value and not eroded, but it's very, very hard to apply it to a first-of-a-kind plant. I don't agree, by the way, that you shouldn't be able to proceed at risk in a design cert. I think that's a change that ought to take place. It already has with the -- what do you call it, POR?

MS. BRADFORD: The PAR.

MEMBER RAY: PAR.

MS. BRADFORD: Yes.

MEMBER RAY: Right now, today, all Tier 2 information, you can change it under a 50.59 like review process. You don't need commission approval to change it. It's only Tier 2* and Tier 1 information. Tier 1 requires a rule change; Tier 2* requires an amendment. If you want to reduce the amount of Tier 2*, fine. I'm not in a position to argue that. My only point is address the issues that were addressed two years ago, when they decided to keep Tier 2*.

MS. BRADFORD: We heard your comments.

CHAIR SUNSERI: I just want to, for the record, interject that we got -- the previous conversation about SDAs and DCEs got a little commercial for a moment. I just want to make sure that we, as members of the ACRS, individuals and when we get together, we're focused on safety.

I think the take-away from that conversation, for me, was we just need to be careful, as we make changes, that we don't do them for the benefit of the commercial reason, but there is a real improvement of the regulation, as it drives towards a safe plant, in the end of the day.

MS. BRADFORD: I hope we said in our presentation that we would not want to decrease safety in any of these --

(Simultaneous Speaking)

CHAIR SUNSERI: You did. I just wanted to -- I was just reflecting on our --

(Simultaneous Speaking.)

CHAIR SUNSERI: -- conversation around that topic.

MEMBER DIMITRIJEVIC: The discussion, from my point, safety's, of course, our main goal is how we made sure that safety is there.

MEMBER REMPE: I have a kind of question related to some of that discussion. I know you have to accommodate many of the applicant requests in some of your response, but I'm wondering if they are properly informed, and do they have a good avenue for guidance for some of the different paths that might be more beneficial for them to think about?

Because I think sometimes, these folks may not be adequately informed. Then they may pick a direction that -- hindsight's 20/20, if they thought about it. Is there a good guidance document that would say you could do this, but these are the pitfalls?

You could do that, and you might come up with something that's -- I can think of some examples where jeepers, had they taken a different path, it

might have been easier for them to have done something. Of course, there's nuances on how they get their financial backing that's beyond my understanding.

MS. BRADFORD: I guess two thoughts I have in response to that. One is we always have pre-application interactions with vendors and with applicants. Sometimes, the question they ask is which regulatory path -- they're thinking about which regulatory path they should be on, and they want to talk to us about that. What do I need for this one? What do I need for that one? What information do I have to have at this stage for an SDA versus a DC?

We are often having those conversations. Then in terms of a document, I think I referred earlier, I think it's called regulatory roadmap, where we laid out these options like SDA. Topical reports is another avenue where you can get some approval from the NRC on a particular part of your application.

That's where we tried to lay out the flexibilities because we did challenge our self, maybe four years ago, when advance reactors, meaning non-light water reactors, were becoming a hot topic. Do we have enough flexibilities in our regulatory framework? We went back and looked.

When we looked at everything that can be exercised within the current regulatory framework, we felt like yes, there is appropriate flexibility there for the different types of reactors and vendors and applicants that we think we might see. That's the document where we tried to lay that out, the regulatory roadmap.

MEMBER REMPE: Is that the one that Jennifer Yule (phonetic) was involved with? I may have seen it --

MS. BRADFORD: We can send it to you --

(Simultaneous Speaking)

MEMBER REMPE: -- and I've forgotten. Yes, I'm not sure that I've seen something that really gets into the details. Maybe I've not seen the same document.

MS. BRADFORD: Like you said, or someone said, it's not going to talk about, probably, the financial impacts of each choice. It's not going to -- but it does talk about what does, I think, each option entail and what do you get as the end product. We can send that to you --

(Simultaneous Speaking)

MEMBER REMPE: I'd be curious. I think I've seen something, but I never saw anything that's

really -- again, a financial path is hard to deal with, but just that you could do this and it might make it easier to make changes to a design later because in SDA it's easier to make changes than a certified design. It does impact finances --

MS. BRADFORD: We can send that to you and you can see if it answers that question.

MEMBER REMPE: Okay, thank you.

MS. BRADFORD: Sure.

CHAIR SUNSERI: All right, anything else?

MEMBER REMPE: I'd offer the Skype --

CHAIR SUNSERI: I'm testing here.

MEMBER RAY: I'm sorry. Okay, let me just, then, reiterate that I highly value the concept of design certification, but to me, it was predicated on essentially complete design. To the extent that we can't achieve that, for whatever reason, I believe there are alternatives.

But if we're going to modify design cert so that it's something less than it has been, then I think we need to address the issue of what is at the end to review the difference between what we review and approved, whatever it was earlier, and what is finally going into service. How are we going to do that? That summarizes my input.

CHAIR SUNSERI: Thank you. I'm going to turn to the guys that are on the phone and on Skype. It's Pete and David and Walt. Do you have any other comments for consideration?

MEMBER RICCARDELLA: This is Pete. No, it's an interesting discussion, and I have no further comments.

CHAIR SUNSERI: All right, thank you. I'm just looking here. I don't know -- David, do you have anything?

MEMBER PETTI: I have no more comments.

CHAIR SUNSERI: Walt?

MEMBER RAY: He wasn't here, was he?

CHAIR SUNSERI: He unmuted.

MEMBER RAY: He wasn't going to be able to stay the whole time he told me.

MEMBER REMPE: He's here.

MEMBER KIRCHNER: Thank you. I just want to associate myself with Harold's last comment about preserving -- it's almost like raising the bar to have it DC, rather than lowering it. But I saw that Anna pointed out, there are other options for the advanced reactors to pursue. So I just associate myself with Harold's remarks. Thank you.

CHAIR SUNSERI: Anyone else? Now, we

will, as part of the agenda, we'll turn to the public. For the members in the room, is there anyone that would like to make a comment on the record? While we're checking for that, if we could open a phone line for the public line. Nobody in the room is offering any comments. On the public line, if there's anybody on the public line that would choose to make a comment, this is your opportunity. State your name and provide your comment. Quyhn, are we sure the line is open?

MR. NGUYEN: I'll check.

CHAIR SUNSERI: Anyone on the public line, make your comment, provide your name. All right, we'll close the public line. As far as next steps go, at least it's our intention to stay in coordination with the staff, through Quyhn, our staff member, so Quyhn has already, obviously, reached out and established a rapport with the group.

We expect that to happen. We understand that the timeline is fairly far out in front of us and that we're, I guess I'll say, back in process after this meeting, where we'll follow our normal protocol.

I do want to say, though, we appreciate the staff's accommodating us in this meeting today and giving us the opportunity to provide early input, due

to the unique nature of the importance of this rulemaking and the fact that we have some experience that may be leaving our committee, so we wanted to share that with you. We do very much appreciate the opportunity to do that. One last check, anything else?

MEMBER REMPE: I also wanted to add my thanks. Again, I was involved with -- when they inquired if we could, so I do appreciate you doing this. If there's opportunities in the future where you think it might be good to go a little bit out of process, I think it would be beneficial for us and help facilitate the process, so please consider it.

CHAIR SUNSERI: All right, now we are adjourned, thank you.

(Whereupon, the above-entitled matter went off the record at 10:47 a.m.)

ADAMS Accession No. ML19247B731

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ACRS Subcommittee Meeting:

Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing Rulemaking

September 20, 2019

NRC Staff Presenters

Jim O'Driscoll, NMSS

Rulemaking Project Manager

Carolyn Lauron, NRO

Senior Project Manager

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Purpose

- To receive the ACRS Subcommittee's perspectives from its review of ESP, DC and COL applications, and the implementation of the 10 CFR Part 52 process

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 the reactor licensing processes
- Improve clarity
- Reduce unnecessary burden on applicants and staff

Background

- Staff is engaging in rulemaking to:
  - Address recommendations on **alignment of 10 CFR Parts 50 and 52**; Enclosure 1 of the SECY
  - Address **Part 52 lessons learned** that have unnecessarily challenged staff, applicants, and licensees; Enclosure 2 of the SECY
  - Consider **transformational changes**

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Recent Activity

October 1, 2018	• Started scoping and outreach
January 15, 2019	• Held public meeting
July 11, 2019	• Alignment on scope
August 27, 2019	• Issuance of Commission Information Paper SECY 19-0084

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Outreach

- Staff requested input on the scope of the regulatory basis from:
  - The general public
  - Industry organizations
  - Nongovernmental organizations
  - NRC staff
- Staff collected approximately 250 items for consideration

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Screening Criteria

- Items were first considered if they met at least one of the following criteria:
  - Addresses alignment of Parts 50 and 52
  - Addresses lessons learned from licensing activities
  - Is a potential transformational change
  - Reduces unnecessary burden and does not impact other requirements

Screening Criteria (cont'd)

- Items were screened out if they met at least one of the following criteria:
  - The item would provide neither a significant safety benefit nor burden reduction to staff or industry while maintaining the agency's safety mission
  - The item could be addressed by the administrative rulemaking for corrections
  - The item could be addressed through the development of guidance outside of rulemaking

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Scoping Results

- Four alignment items
- 52 lessons learned items
  - Four of which are transformational
- 8 additional items are corrections, to be addressed in the semiannual administrative rulemaking for corrections to the CFR.

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Alignment Items

- The staff is considering revising the regulations in 10 CFR Part 50 for new power reactor applications to more closely align with requirements in 10 CFR Part 52 in four areas:
  a. Apply the Policy Statement on Severe Reactor Accidents to new 10 CFR Part 50 license applications
  b. Develop, submit, maintain, and upgrade a plant-specific PRA, submit appropriate information describing that analysis as part of the CP and OL submittals, and maintain and upgrade the PRA throughout the duration of the operating license
  c. Address the TMI requirements of 10 CFR 50.34(f) with the same exceptions given for 10 CFR Part 52 applications
  d. Provide a description and analyses of fire protection design features and describe fire protection plans

Lessons Learned Items

- As described in Information SECY 19-0084, the staff is considering revising the regulations to address lessons learned from new reactor licensing in several topical areas:
  - PRA requirements
  - Operator licensing
  - Security
  - Emergency planning
  - 10 CFR Part 52 licensing process
  - Environmental review
  - Applicability of other processes to the Part 52 Process
  - Miscellaneous

Transformational Items

- As described in Information SECY 19-0084, some changes are considered transformational in nature:
  - Modify DC renewal requirements and expiration date
  - Align the change process for DCs with the 10 CFR 50.59 process
  - Add definitions of Tier 1, Tier 2 and Tier 2* information to Part 52
  - Consider reducing requirements for standardization for certified designs

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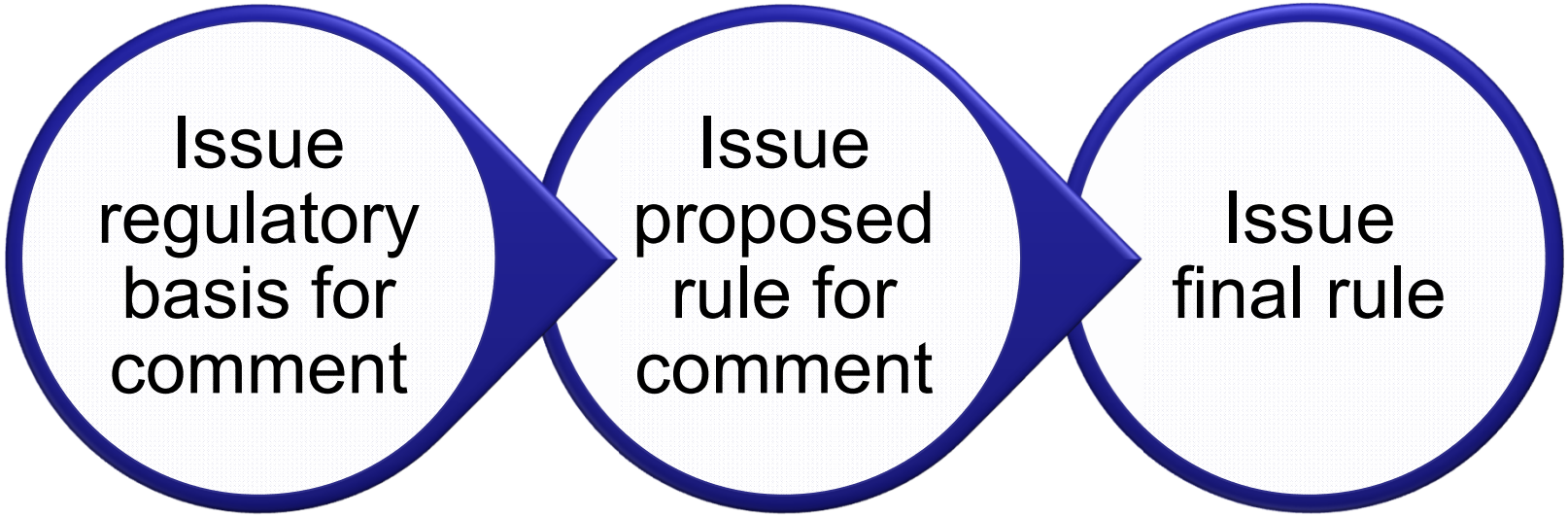
Next Steps

- Staff will consider your feedback from this meeting
- Develop and issue the regulatory basis for public comment
  - No draft and final regulatory basis will be issued
  - Comments received on the regulatory basis will be considered during the proposed rule stage
- Hold additional stakeholder meetings as needed

Rulemaking Schedule



- August 2020
- June 2022
- July 2024

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QUESTIONS?

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BACK UP SLIDES

References

Document Title	ADAMS Accession Number/ FR Citation
SECY-19-0084, "Status of Rulemaking to Align Licensing Processes and Lessons Learned from New Reactor Licensing (RIN 3150-AI66)"	ML19161A169
SECY-19-0034, "Improving Design Certification Content"	ML19080A034
"Summary of January 15, 2019 Public Meeting to Discuss the Proposed Rulemaking to Align the Regulations in Parts 50 and 52 to Address Updates to the Licensing Processes and Lessons Learned for Future New Reactor Applications,"	ML19023A046
SECY-15-0002, "Proposed Updates of Licensing Policies, Rules and Guidance for Future New Reactor Applications"	ML13277A420
SRM-SECY-15-002, "Staff Requirements-SECY-15-002-Proposed Updates of Licensing Policies, Rules and Guidance for Future New Reactor Applications"	ML15266A023
"Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants"	50 FR 32138
SECY-89-013, "Design Requirements Related to the Evolutionary Advanced Light Water Reactors," dated January 19, 1989	ML003707947
SECY-90-016, "Evolutionary Light Water Reactor (LWR) Certification Issues and Their Relationship to Current Regulatory Requirements," dated January 12, 1990	ML003707849
SECY-93-087, "Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs," dated April 2, 1993	ML003708021
Bipartisan Policy Center Report Recommendations on the New Reactor Licensing Process	ML13059A240

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Administrative Corrections

10 CFR	Description
§ 2.627	The references to § 2.617 in § 2.629(b) and § 52.83(b) should be to § 2.627.
Part 52 Appendices	Both the ABWR and System 80+ design certification final rules (Part 52, Appendices A and B, respectively) initially correctly referred to "ANSI/AISC N-690." Both the AP600 and AP1000 design cert final rules (Appendices C and D, respectively) incorrectly stated ANSI/AISC-690 (omitting the "N"). 64 Fed. Reg. 72,002, 72,018; 71 Fed. Reg. 4,464, 4,481. Unfortunately, the NRC changed the ABWR and System 80+ references to match the AP600 and AP1000 references in the 2007 Part 52 rulemaking. Correct the reference in Appendices A-D by adding the "N" back into ANSI/AISC N-690
Part 52 Appendix D Section VI.B.6	Part 52, Appendix D, Section VI.B.6 reads "except as provided in paragraph VIII.B.5.f . . ." but the reference is incorrect. It should be "except as provided in paragraph VIII.B.5.g . . ." (rather than VIII.B.5.f).
Part 52 Appendix E Section VI.B.6	Part 52, Appendix E, Section VI.B.6 reads "except as provided in paragraph VIII.B.5.f . . ." but the reference is incorrect. It should be "except as provided in paragraph VIII.B.5.g . . ." (rather than VIII.B.5.f).
Part 50 Appendix J	Under Option B, Subsection IV. Recordkeeping, refers to § § 50.72 (b)(1)(ii) and § 50.72 (b)(2)(i). There is no § 50.72 (b)(1)(ii), only § 50.72 (b)(1). 10 CFR Part 50, Appendix J references 10 CFR Part 52 and 10 CFR 50.54(o) imposes Appendix J as a requirement.
§ 21.3, "Basic component"	Revise definition by deleting text in brackets as follows: "(2) When applied to standard design certifications [under subpart C of part 52 of this chapter] and standard design approvals under part 52 of this chapter,…"
§ 52.43(b)	Correct the following text in 10 CFR 52.43(b) which was not updated when SDAs were renamed to state: "Subpart E of this part governs the NRC staff review and approval of a ~~final~~ standard design."
§ 52.79(c)(2)	Correct as follows: "all terms and conditions that have been included in the ~~final~~ standard design approval will be satisfied…."

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Acronyms

ABWR	Advanced Boiling Water Reactor
ADAMS	Agencywide Documents Access and Management System
CFR	*Code of Federal Regulations*
COL	Combined License
CP	Construction Permit
DC	Design Certification
DCD	Design Certification Document
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OL	Operating License
PRA	Probabilistic Risk Assessment
RB	Regulatory Basis
SOC	Statement of Considerations
SRP	Standard Review Plan
SRM	Staff Requirements Memorandum
TMI	Three Mile Island