

# **Official Transcript of Proceedings**

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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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4 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

5 (ACRS)

6 + + + + +

7 REGULATORY PRACTICES & POLICIES SUBCOMMITTEE

8 + + + + +

9 FRIDAY

10 FEBRUARY 18, 2022

11 + + + + +

12 The Subcommittee met via Teleconference,  
13 at 9:30 a.m. EST, Vicki M. Bier, Chairman, presiding.

14  
15 COMMITTEE MEMBERS:

16 VICKI M. BIER, Chairman

17 RONALD G. BALLINGER, Member

18 CHARLES H. BROWN, JR. Member

19 VESNA B. DIMITRIJEVIC, Member

20 GREGORY H. HALNON, Member

21 WALTER L. KIRCHNER, Member

22 JOSE MARCH-LEUBA, Chairman

23 DAVID A. PETTI, Member

24 JOY L. REMPE, Member

25 MATTHEW W. SUNSERI, Member

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2 DENNIS BLEY

3

4 DESIGNATED FEDERAL OFFICIAL:

5 QUYNH NGUYEN

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## C-O-N-T-E-N-T-S

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

9:30 a.m.

CHAIRMAN BIER: 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. I am Vicki Bier, Chairman of the Subcommittee. Members in attendance today, from what I can see on Teams, in addition to myself, we have, in no particular order, Charles Brown, Dave Petti, Joy Rempe, Greg Halnon, Jose March-Leuba, Ron Ballinger, Matt Sunseri, and Vesna Dimitrijevic. Is there anybody online that I missed of the members?

MEMBER KIRCHNER: Vicki, this is Walt. I'm on.

CHAIRMAN BIER: Okay, great, glad to have you. Thank you for joining. In addition, I see that Dennis Bley, one of our consultants is on. Are there any other consultants online that I should be introducing?

Okay. Mr. Quynh Nguyen is the Designated Federal Officer for this meeting. As posted for the agenda on the ACRS website, the topic for today is the draft proposed 10 CFR 50 and 52 rule making, and related activities.

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1           We had a previous briefing on this topic  
2           on February 1st, and this is mainly to address  
3           questions and concerns that the members had after that  
4           initial briefing. I really appreciate staff coming  
5           back to answer these questions. I know it's a lot of  
6           extra preparation, but it will definitely be  
7           beneficial to me, as the Subcommittee Chair, in having  
8           the answers on hand, and being able to have that  
9           information available for letter writing, rather than  
10          getting our answers just in the full committee  
11          meeting. So I appreciate that.

12           I believe that a phone bridge line has  
13          been opened to allow members of the public to listen  
14          in on the presentations and committee discussion. And  
15          I believe members of the public are also now able to  
16          join on Teams directly to view the slides. To my  
17          knowledge, we have received no written comments or  
18          requests to make oral statements from members of the  
19          public regarding today's sessions. There will be an  
20          opportunity for public comment towards the end of the  
21          morning meeting. And we have set aside time at the  
22          conclusion of the prepared presentations and  
23          discussion for comments from members of the public  
24          attending, or listening to the meetings.

25           A transcript of the meeting is being kept,

1 and it is requested that the speakers identify  
2 themselves and speak with sufficient clarity and  
3 volume so that they can be readily heard.  
4 Additionally, participants should mute themselves when  
5 not speaking.

6 To start off the staff's presentation, I  
7 would like to call on Brian Smith of the Office of  
8 Nuclear Reactor Regulation for his opening remarks.

9 MR. SMITH: Thank you, Chairman Bier.  
10 Larry Burkhardt, you have your hand raised, did you  
11 need to say something now?

12 MR. BURKHART: I'm sorry, Chairman, I just  
13 wanted to make sure, for those folks, members of the  
14 public who are tying in via phone, we have just made  
15 the decision to share the MS Teams link with members  
16 of the public. So, I see we have several who are  
17 tying in via phone, so if any of those who do not have  
18 the MS Teams link would like it, please send me an  
19 email at [lawrence.burkhart@nrc.gov](mailto:lawrence.burkhart@nrc.gov). Thank you.

20 CHAIRMAN BIER: Thank you, Larry. Okay,  
21 Brian, I think you can go ahead with your remarks  
22 then.

23 MR. SMITH: Okay. Thank you, Chairman  
24 Bier. Good morning to you, and good morning to the  
25 members of the Subcommittee. My name is Brian Smith,



1 and I am the Director of the Division of New and  
2 Renewed Licenses in the NRC's Office of Nuclear  
3 Reactor Regulation. The purpose of today's meeting is  
4 to continue our discussions related to the staff's  
5 rulemaking efforts to align Parts 50 and 52 licensing  
6 processes, and specifically to address Subcommittee  
7 members' follow-up questions that were raised during  
8 the February 1st briefing, and to discuss the guidance  
9 documents being revised as a result of these proposed  
10 rule changes.

11 At our February 1st briefing, the staff  
12 described in detail the scope of the rulemaking,  
13 focusing on the alignment areas between Parts 50 and  
14 52, the proposed changes to the rule language, and the  
15 basis for proposing the changes. The staff also  
16 summarized the public comments that we received in  
17 each alignment area.

18 I would like to reiterate what Rob Taylor  
19 stated in his opening remarks on February 1st, which  
20 is that the draft proposed rule and the associated  
21 draft revised guidance documents are still under NRC  
22 management review, and have not yet been reviewed by  
23 the NRC's Office of the General Counsel. As such, the  
24 content of the draft Federal Register notice should  
25 not be interpreted as the NRC's official agency

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1 positions.

2 To conclude my opening remarks, I would  
3 like to thank the members for your time today, and to  
4 convey that the staff is looking forward to having  
5 another productive meeting with the subcommittee  
6 members. With that, I turn it back over to you  
7 Chairman Bier.

8 CHAIRMAN BIER: Okay. So, I think with  
9 that, we can go ahead, and introduce the first staff  
10 presenter, I don't know who --

11 (Simultaneous speaking.)

12 MR. O'DRISCOLL: Yeah, it's Jim  
13 O'Driscoll. So, hi, and I'm ready to go.

14 CHAIRMAN BIER: Okay, thanks for having  
15 you back.

16 MR. O'DRISCOLL: Sure.

17 CHAIRMAN BIER: I don't know who is  
18 running the slides, but I think --

19 MR. O'DRISCOLL: That would be me, too.

20 CHAIRMAN BIER: Okay, great, thank you.

21 MR. O'DRISCOLL: All righty. So, hi,  
22 everybody. My name is Jim O'Driscoll, I'm the lead  
23 rulemaking project manager on this effort. I'm in the  
24 Office of Nuclear Material Safety and Safeguards in  
25 the Division of Rulemaking, Environmental, and

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1 Financial Support. REFS is what we call ourselves.  
2 Also joining me today is Omid Tabatabai from the NRC's  
3 Office of Nuclear Reactor Regulation, Division of New  
4 and Renewed Licenses. We have several other NRC staff  
5 on the call as well.

6 There we go. So, today's meeting -- we're  
7 on slide three, everybody, if folks are just on the  
8 phone. The purpose of today's meeting is to provide  
9 the ACRS an update on the staff's efforts since the  
10 last ACRS meeting the NRC held on this topic, which  
11 took place just this past February 1st. You will soon  
12 find the transcript and slides of that meeting on the  
13 ACRS public website on the 2022 ACRS meeting schedule,  
14 and related documents page.

15 In the meantime, the meeting slides and  
16 the preliminary draft proposed rule Federal Register  
17 notice that was made available to the ACRS are  
18 available in ADAMS under accession number ML22020A000.  
19 This follow-up meeting will provide an opportunity to  
20 continue a discussion on several topics that we  
21 covered in the last meeting. This meeting will also  
22 allow the opportunity for us to discuss specific  
23 changes in several guidance documents that are  
24 necessary to implement the proposed rule.

25 The detail of discussion will be at a high

1 level; we may not have the specific subject matter  
2 expert available on the phone to address your question  
3 if it gets too technical. I understand that we will  
4 discuss the proposed rule at the upcoming ACRS full  
5 committee meeting in the morning of March 2nd. We'll  
6 pause for questions and answers as we go on any topic  
7 of ACRS interest.

8 Finally, we'll provide you an update of  
9 the next steps for the project. We hope this  
10 interaction will provide additional detail on the  
11 content of the preliminary draft proposed rule, and  
12 the associated guidance that is under staff management  
13 review, and the status for the rulemaking. We'll  
14 respond to the Committee's written comments about the  
15 subject that we receive.

16 I'll briefly remind members of the public  
17 attending of the ways you can provide comments that  
18 are as detailed in the preliminary draft Federal  
19 Register notice, that will be later on in the  
20 discussion. Also please note that a list of the  
21 acronyms used in the slides is at the end of the  
22 presentation. I will try to say the full term at  
23 least once to help folks follow along. Also note that  
24 the list of the ADAMS accession numbers to the  
25 documents referenced in the NRC staff presentation can

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1 be found at the end of the staff slide presentation.  
2 Please be careful not to discuss any safeguard,  
3 security related, classified, or proprietary  
4 information during this meeting. Although we intend  
5 to have an open dialogue, please note that the NRC  
6 staff will not be making any regulatory commitments  
7 during this meeting.

8 All right, so I'll roll now into the NRC  
9 staff's presentation. We are now on slide five. Good  
10 morning. As I said, I'm Jim O'Driscoll, the lead  
11 rulemaking project manager on this activity. I'm in  
12 the Office of Nuclear Material Safety and Safeguards,  
13 Division of Rulemaking, Environmental, and Financial  
14 Support. Also joining me today is Omid from the NRC's  
15 Office of Nuclear Reactor Regulation, Division of  
16 Renewed licenses.

17 And let me move onto the next slide, slide  
18 six. We're on slide six. From our last meeting, we  
19 noted several items that you wished for more  
20 discussion. Several items stood out, and we have a  
21 slide, or two on each of these. These are entry  
22 conditions for Part 50, Part 52, Part 53, and the  
23 newly proposed Part 50 TT, or Part 50 T traditional  
24 processes. That is, is there, or will there be, any  
25 codified restrictions or conditions for the use of

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1 each of these licensing processes, or can any  
2 applicant of any design apply for a license using any  
3 of these?

4 Another item is the issue of cumulative  
5 effects on safety of changes on the design major in  
6 construction. There was interest also in further  
7 discussion on the physical security implications  
8 associated with mobile reactor designs or designs  
9 where a manufacturer ships the reactor to the site  
10 with fuel in the reactor vessel.

11 An ACRS member wanted further discussion  
12 on specifics regarding future licensing reviews of  
13 digital instrumentation, and control, I&C, systems,  
14 and how the ongoing rulemaking affects these reviews.

15 There is also an interest in specifics  
16 associated with the NRC's role in the transfer of  
17 design certification information to reactor vendors  
18 other than the one which requested the design  
19 certification.

20 The Subcommittee also desired further  
21 discussion on the concept of essentially complete  
22 design, and how the staff plans to carry forth this  
23 concept in future licensing.

24 Finally, there was some interest in the  
25 concept of credible accident. Specifically, how it

1 should or could be defined as a design goal objective  
2 in a PRA.

3 So, I'm going to go ahead and start to  
4 discuss each of these. I want to pause here. Any  
5 questions?

6 All right, we're on slide seven, so this  
7 is entry conditions for licensing processes. So,  
8 Member Bley asked a question about this at the last  
9 meeting during opening remarks. I believe that the  
10 Subcommittee may be satisfied with the answer we gave,  
11 but I want to summarize our response and provide the  
12 opportunity for any questions. Also I want to  
13 emphasize that this issue is out of scope for the Part  
14 50/52 rulemaking.

15 The staff would apply any entry conditions  
16 under the Part 53 rulemaking to Part 53. Briefly, our  
17 key points are if there are currently no entry  
18 conditions as to technology for Parts 50 or Part 52  
19 processes. Nor are we planning to make entry  
20 conditions for these two processes as a part of any  
21 rulemaking going on. Although they may remain largely  
22 light water reactor-specific, Part 50 and 52 can be  
23 used by power reactor license applicants with designs  
24 using non-light water reactor technology.

25 And for the Part 50 process, we've already

1 done this before, back in the '70s. The NRC is  
2 developing Part 53 to carry out the provisions of the  
3 Nuclear Energy Innovation and Modernization Act.  
4 Among these, the Act directs the NRC to establish a  
5 new regulatory framework for America's innovators  
6 which seek to develop, license, and deploy advanced  
7 nuclear technologies.

8 We're taking an expansive approach to that  
9 goal. Currently we believe that the resulting Part 53  
10 approaches will support all technologies including  
11 even large light water reactors. So, are there any  
12 questions on this item before I go on?

13 MEMBER REMPE: So, this is Joy, and this  
14 is just a minor correction. Even back on February 1s,  
15 Dennis was a consultant, he stepped down from his  
16 membership, and he's a consultant. I just wanted to  
17 make sure that everyone's aware of it, because it was  
18 right at the time we switched, so it's easy to get a  
19 little confused on that topic. The other thing I just  
20 wanted to -- and I know you're going to talk about  
21 mobile reactors later, but I think it's better to  
22 bring this up here, rather than there.

23 I saw the response you have, that these  
24 changes don't address mobile reactors, and this effort  
25 doesn't -- is that going to be in the preamble? I



1 guess I'm kind of thinking about Part 53 also, because  
2 we've been told it isn't going to address mobile  
3 reactors, and where will that be addressed?

4 MR. O'DRISCOLL: That's a good question.  
5 I can speak to what's in the preamble for the Part 50  
6 and 52 rulemaking as it stands. And we do have a --  
7 we asked a question when we sent out the reg basis for  
8 comment, specific request for comment about the role  
9 of this rulemaking with respect to advanced reactors  
10 in light of the fact that we're doing Part 53. And so  
11 we have a discussion in our preamble on the general  
12 topic of essentially where the niche is for this  
13 rulemaking in the various efforts we're doing.

14 So, we don't -- well I think the way this  
15 rule is written, going into it talking about a  
16 specific non light water technology in this rulemaking  
17 would not be a clear type of thing to do in this  
18 rulemaking. Because essentially we've said several  
19 times that this rulemaking is more of a lessons  
20 learned type of thing on the recent licensing  
21 activities, and also to align Parts 50 and 52 where  
22 necessary.

23 So, where that discussion would go, I  
24 would pass that off to Omid, or to Brian to maybe  
25 answer that.

1 MR. SMITH: This is Brian Smith. The way  
2 I understand Part 53, I know we had asked for -- also  
3 we have Boyce Travis, who is here, he was actually  
4 working on Part 53, so maybe I should let Boyce  
5 address this. But the way I understand it is that as  
6 you may recall, Part 53 is kind of being broken up  
7 into two parts, one that will be finished in 2025, and  
8 the other part that will be finished up in 2027.

9 And I believe the plan is to address the  
10 mobile reactor part in the second part, the second  
11 phase of the rulemaking. Boyce, do you want to weigh  
12 in?

13 MR. TRAVIS: Yeah, so I'm not going to  
14 commit the staff -- this is Boyce Travis by the way --  
15 certainly I don't know that the staff is committing to  
16 addressing that portion by 2027, I will speak to  
17 what's being done in Part 53 in the sense that Part 53  
18 is going to allow for additional flexibilities in  
19 terms of a small reactor that is perhaps manufactured  
20 elsewhere, and located at a site. The manufacturing  
21 license process would allow for that.

22 A reactor that is -- right now, the  
23 division is that the Part 53 rulemaking would not  
24 address fueling, and testing a reactor at a  
25 manufacturing location, and then shipping it, and

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1 refueling, and operating it at a different location.  
2 But we believe that could be addressed in the future,  
3 either through exemptions, or through the additional  
4 rulemaking that Brian discussed.

5 Right now, the vision for what's being  
6 referred to as a mobile reactor, and I think there is  
7 some confusion on what exactly that term denotes,  
8 there are plans for addressing a reactor that can be  
9 operated at multiple sites, and given a license to do  
10 that is currently not within the scope of the Part 53  
11 rulemaking, and could be addressed by a future  
12 offshoot of that rulemaking once we have a better idea  
13 of what the landscape looks like.

14 CHAIRMAN BIER: Okay, thank you. I see  
15 that there are questions from both Consultant Bley,  
16 and Member Petti. Dennis, do you want to go first?

17 DR. BLEY: Sure, thanks Vicki. Jim,  
18 thanks, I didn't really recognize my comment under the  
19 title entry conditions, but I get it now. And I had  
20 told Rob I really appreciated that you had gone this  
21 way, because the committee has been pushing for  
22 several years in that same direction. But if there  
23 are no planned entry conditions, I suppose then, a  
24 reactor that's mobile could apply under any of the  
25 three, and the issues -- I think Joy will probably

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1 talk more about specific issues later.

2 But there are peculiar issues that come  
3 up, that I'm not sure the way the regulation is  
4 written, there's something that would trigger action,  
5 or the need for an exemption. So, it'll be  
6 interesting to see how that works out if it's  
7 unspecified now, but thanks.

8 CHAIRMAN BIER: Okay, Member Petti?

9 MEMBER PETTI: Yeah, mine is sort of  
10 follow on to that, and to Joy's, which is there enough  
11 in the current regulations to allow a mobile reactor  
12 today? I'm thinking of the Part 70 transport  
13 regulations when you put those next to either 50, 52,  
14 lobbying vision 53, is that sufficient, is anyone  
15 looking at that landscape?

16 MR. O'DRISCOLL: Boyce, I think you have  
17 your hand up, go ahead.

18 MR. TRAVIS: I would like to speak if  
19 that's okay, this is Boyce Travis speaking again. So,  
20 if possible, after I speak, I would like for the  
21 members to clarify what they mean by mobile reactor.  
22 In the sense that what Member Petti just said with  
23 regards to we believe there is a framework in the  
24 regulations that can be used to address transport of  
25 a reactor that has fuel in it between the various

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1       licensing processes offered in Part 70 for  
2       transportation, or 73.

3               But there is not a provision necessarily  
4       in the regulations for a reactor that is licensed to  
5       operate at multiple sites as it exists right now. A  
6       reactor is licensed to operate at a single site. A  
7       manufacturing license allows a developer, or a vendor  
8       to manufacture a reactor at once site, and move it to  
9       a different site where it will have an operating  
10      license of some sort to be operated at that site.

11              And so as it stands in the regulations,  
12      there is not a provision for a reactor that can  
13      operate at multiple locations.

14              CHAIRMAN BIER: Okay, Vesna, do you have  
15      a question, or comment?

16              MEMBER DIMITRIJEVIC: Yes, I actually have  
17      -- I notice on this slide, on the first bullet we say  
18      the Parts 50, 52 are open to all technologies, and the  
19      last bullet says that Part 53 is technology inclusive.  
20      Is there some subtle difference there? Because, for  
21      me, open to all technologies means technology  
22      inclusive.

23              MR. O'DRISCOLL: Yeah, that's a good  
24      question. So, it has to do with history. So,  
25      basically, Part 50 and 52, as you imagine, was written

1 with certain technology in mind. Unavoidably, the  
2 regulations developed around large light water  
3 technology, because that's all we've essentially  
4 licensed commercially en masse during the time. So,  
5 because of that, we never thought about all  
6 technologies all along. And so you can see it in the  
7 regulations, where there's a bias towards large light  
8 water technology, the accident sequences, all that  
9 kind of stuff.

10 What we're trying to do is break away from  
11 that in Part 53, and say, hey, look, this needs to be  
12 more technology inclusive, because we don't know, the  
13 next new reactor may not be large light, so that's  
14 sort of the thing. Does that answer your question?

15 MEMBER DIMITRIJEVIC: Okay, I understand  
16 your thinking. I just want to say that this doesn't  
17 say this, because if it's open to all technologies, so  
18 it is open to all technologies, but we are biased  
19 towards large light water reactors? That is not  
20 really answering my question but --

21 CHAIRMAN BIER: If I can step in, and  
22 offer what might clarify it, if I'm correct. In Parts  
23 50 and 52 there will be language like for a  
24 pressurized water reactor you would need to  
25 demonstrate the following, or even large early release

1 frequency, which is kind of an LWR concept, and might  
2 not apply to some other reactor types. So, am I  
3 understanding correctly that by saying technology  
4 inclusive, we're saying that that type of language  
5 would not appear in Part 53, is that correct?

6 MR. O'DRISCOLL: Boyce, it looks like you  
7 want to answer this one, so I'm going to hand it off  
8 to you.

9 MR. TRAVIS: Yeah, I will, this is Boyce  
10 Travis speaking again. I will say that there are a  
11 number efforts in Part 53. The goal is to make sure  
12 Part 53 is technology neutral, and does not contain  
13 that sort of language. However, there are additional  
14 efforts happening, as we've discussed with the  
15 committee what's been referred to as Part 53 T, in the  
16 committee meeting as Part 5X, or the deterministic, or  
17 traditional option.

18 The goal is to make sure that all of Part  
19 53 is technology neutral. That deterministic option  
20 maybe not technology inclusive, but technology neutral  
21 in the sense that there may be entry conditions for  
22 regulations that are applicable to light water  
23 reactors, and broader regulations that are applicable  
24 to all technology types due to the regulatory history,  
25 and precedent with certain event sequences I guess

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1 I'll say.

2 CHAIRMAN BIER: But it sounds like that's  
3 mainly focused on Part 53, so we maybe don't need to  
4 nail down all those details today.

5 MR. TRAVIS: Yes, that's correct.

6 CHAIRMAN BIER: Additionally, I see  
7 questions, or comments from Joy, and from Ron  
8 Ballinger. Joy, do you want to go ahead?

9 MEMBER REMPE: Get myself unmuted. I  
10 think that my main concern right now is what I see  
11 coming in the near term with the agency, where right  
12 now -- and I'm sure Travis and others know it more  
13 than I do -- the staff is engaging with one potential  
14 applicant that wants to haul, or talking about hauling  
15 a mobile reactor to their site and installing it. And  
16 so this -- Travis is right, that this other one may be  
17 a longer term one.

18 But in the near term, if this applicant  
19 goes through Part 50, because Part 53 isn't  
20 established yet, we need to maybe make sure that we've  
21 considered some things, especially with some of the  
22 proposed changes to the regulations. And the security  
23 topic is one of those topics where those changes about  
24 what happens with fuel loading, but there's also some  
25 interesting nuances with when a PRA is required.

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1 CHAIRMAN BIER: If there's no staff  
2 response, then I guess Ron, you can go ahead.

3 MEMBER BALLINGER: Thanks. So, what I'm  
4 hearing, so I get this clear, a mobile reactor, a  
5 company could manufacture a reactor, and then ship it  
6 to a site, and the license is for the manufacturer,  
7 and there has to be an individual site license. So,  
8 if there are multiple customers for this mobile  
9 reactor, there are multiple licenses for each site, is  
10 that clear? Am I reading this correctly?

11 MR. TRAVIS: This is Boyce Travis again.  
12 I would say yes, with some potential nuance in there,  
13 in the sense that I believe that -- so, depending on  
14 how that is --

15 MR. O'DRISCOLL: I think you can say  
16 unequivocally, yes. My understanding is, from the  
17 talking points in our previous discussion with you  
18 guys, you guys being DANU, we're not licensing right  
19 now, or planning licensing a reactor on wheels that  
20 can go to one location, unplug it, and go to another  
21 location, and plug it in. What we're trying to -- we  
22 understand there is commercial interest in an idea  
23 where a core would be pre-loaded with fresh fuel, sent  
24 to a fixed site, and installed.

25 And that is different from what we

1 normally do. But those are -- when we talk about  
2 mobile reactors, those two concepts seem to be  
3 conflated time to time, does that help?

4 MEMBER BALLINGER: A little bit. I'm just  
5 curious as to who has the responsibility? So, there's  
6 a manufacturer that may manufacture, let's say a dozen  
7 of these reactors to be shipped, and operated at a  
8 dozen different sites.

9 MR. TRAVIS: And that's the nuance I was  
10 trying to get to when I was speaking Member Ballinger.  
11 So, a manufacturing license is not necessarily  
12 required. I mean you could have a reactor vendor that  
13 is producing reactors that are going to be sited. In  
14 the example you're referring to, yes, there would be  
15 an expectation that the manufacturer would have a  
16 manufacturing license to produce those reactors, and  
17 then a license holder at the site who would probably  
18 be a different entity, but would not be required to be  
19 a different entity, would be licensed to operate the  
20 reactor at a site.

21 And the license holder at the site is  
22 responsible for the reactor, and its operation at that  
23 point. But I believe in the same sort of expectation  
24 with the design certification, vendor having some  
25 level of technical support, it's not denoted that way.

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1       Ultimately the license, the COL, or OL holder is  
2       responsible. But the level of review would be based  
3       on some level of standardization from the manufacturer  
4       of the reactor that the manufacturing license holds,  
5       if that makes sense.

6               MEMBER BALLINGER: Would that also be true  
7       for autonomous, and unintended operation at the site?

8               MR. TRAVIS: I'm going to say we've  
9       stepped way beyond the bounds of what this maybe is  
10      going to cover with that comment.

11              CHAIRMAN BIER: If I can offer a potential  
12      clarification, it sounds like the current system could  
13      conceivably handle a mobile reactor that could be  
14      shipped between two, or three locations that each have  
15      their own operating license, but not a kind of county  
16      fair type operation where it just goes from place to  
17      place under its own license.

18              MR. TRAVIS: This is Boyce Travis again,  
19      I mean hypothetically with exemptions, I would say  
20      yes, but we haven't explored that. I don't think  
21      that's -- yeah, theoretically possible with  
22      exemptions, but outside the scope of what we looked at  
23      so far.

24              CHAIRMAN BIER: Okay, Walt?

25              MEMBER KIRCHNER: Yes, I think Boyce

1 addressed this, but I'll just kind of reinforce what  
2 he said. I think we should drop this mobile reactor  
3 terminology. There is history with quote unquote  
4 trying to develop mobile reactors for defense  
5 applications, as well as space, et cetera. But I  
6 think the term mobile should be expunged from our  
7 vocabulary. What we're talking about is shipping an  
8 intact core. That's not a mobile reactor on wheels,  
9 as Boyce said.

10 And I would venture to say, I'm not a  
11 regulatory, but that the existing 50, 52, and 70  
12 series would provide a way in negotiations with the  
13 NRC to manufacture such a reactor, ship it, and then  
14 install it at a licensee, an operating license site,  
15 but these are not mobile reactors.

16 MEMBER BALLINGER: That's a very, very  
17 good point.

18 MEMBER KIRCHNER: And there is precedent  
19 for doing this, and I'll stop there.

20 CHAIRMAN BIER: Okay, do we have enough on  
21 this topic? I see another hand.

22 MEMBER DIMITRIJEVIC: It's me, I was  
23 wondering, do we want to use this slide? We used this  
24 slide to discuss the mobile reactors, but Joy also  
25 brought up something else, the difference in the PRA,

1 do we want to use this slide to discuss the difference  
2 between 50, 52, and 53 in the PRA use? I mean because  
3 it seems that 53 is going to allow the graded PRA,  
4 light PRA, different approaches to that 50, 52 will  
5 not.

6 MR. O'DRISCOLL: So, this is Jim  
7 O'Driscoll. We're really just starting that whole  
8 concept of Part 53 T. In fact I'm working making  
9 liaison with the group working on that to make sure  
10 we're coordinated. So, we're just starting on that, so  
11 I'm not sure if we could answer that question.

12 MEMBER DIMITRIJEVIC: Okay.

13 CHAIRMAN BIER: All right, any other  
14 questions, or comments on this slide? Okay then, I  
15 think we can move on.

16 MR. O'DRISCOLL: All right, thank you.  
17 We're on slide eight. So, this is cumulative effects  
18 of changes during construction. So, Chairman Rempe  
19 asked a question about this at the last meeting during  
20 our discussion on the Part 52 change process topic.  
21 Other members of the ACRS also raised this issue of  
22 cumulative effects in earlier meetings. I want to  
23 summarize my response, and provide the opportunity for  
24 further discussion on the topic.

25 The rulemaking is not changing a

1 fundamental difference between Part 50, and Part 52  
2 processes. Part 52 continues to serve as quote  
3 unquote the standardization rule. The foundation of  
4 the rule remains the principle of one design, one  
5 review. The aim of which is the final resolution of  
6 all common safety issues in a standardized design  
7 early in the licensing process. The main features  
8 remain a design certification that has finality  
9 through the Commission, and the atomic licensing and  
10 safety board panel hearings.

11 The design certification is codified as a  
12 regulation, and the design can be referenced by  
13 multiple applicants in the future. The design  
14 certification includes those inspections tests,  
15 analyses, and acceptance criteria that when met  
16 provide assurance that the affected plant, the built  
17 plant meets these safety requirements specified in the  
18 certification.

19 There is no need for an additional final  
20 check because ITAAC exists, ITAAC kind of takes care  
21 of that. The process for NRC review of exemptions  
22 from the requirements of the design certification  
23 rule, and the departures of the plant's final safety  
24 analysis from the design standard control document are  
25 reviewed such that there is no residual accumulation

1 of unresolved safety issues.

2 And also the Part 52 process requires  
3 ITAAC maintenance. So, ITAAC maintenance is important  
4 in light of the sometimes lengthy construction  
5 schedules, as we know. This rulemaking, this one  
6 we're talking about here, strengthens this idea. The  
7 rule includes an item discussed in section three,  
8 III.K.7 of the preliminary draft FRN, Federal Register  
9 notice that helps ensure that ITAAC are not just met  
10 at one point during construction, but must be met,  
11 that is ITAAC are met.

12 So, they have to stay met all along. So,  
13 we continue to believe that these requirements are  
14 sufficient to ensure that Part 52 process does not  
15 need an additional step for a final check of the as  
16 built design. Is there any questions on that?

17 CHAIRMAN BIER: Yes, I do have a question.  
18 So, since I'm kind of new to this, and I realize an  
19 explanation of ITAAC may be beyond the scope of a  
20 brief answer, but can you either point me to a good  
21 reference that would summarize how ITAAC is  
22 implemented, or at least I would like to understand is  
23 ITAAC purely a licensee responsibility, or what role  
24 does the agency have in ensuring that ITAAC continues  
25 to be satisfied?

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1 MR. O'DRISCOLL: So, that's a good  
2 question, I probably would want to refer to somebody  
3 in DNRL. I have a thought, but I'd rather see if  
4 somebody would like to answer that's on from DNRL,  
5 that feels enthusiastic about that question. I mean  
6 I can provide some answer.

7 CHAIRMAN BIER: Yeah, I don't see any  
8 hands raised.

9 MR. O'DRISCOLL: Okay, so ITAAC --

10 MR. NGUYEN: Chairman, I'll switch in, and  
11 I'll get you some reference materials.

12 CHAIRMAN BIER: Super, thank you.

13 MR. O'DRISCOLL: Yeah, the reference  
14 material that comes to mind, is there's a one pager,  
15 a primer on our public website on the Part 50 and 52  
16 process. It talks a little bit about ITAAC, but I  
17 don't think it's going to answer fully your question.  
18 But ITAAC is a key thing. It is the process by which,  
19 or the element of which we provide assurance that all  
20 this stuff that we got approved way back when before  
21 construction is actually affected, and it's been  
22 tested.

23 So, what we do, is we require that stuff  
24 to be completed, and we do inspections. It's  
25 basically -- I don't want to go into detail, but it's

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1 a sample type of process where the NRC inspects that  
2 ITAAC to make sure it was actually done. Somebody  
3 raised their hand. Chandu, would you like to speak?  
4 You're the man.

5 MR. PATEL: Yeah, this is Chandu Patel,  
6 I'm a senior project manager in Vogtle group in NRR.  
7 Basically, yes, ITAACs are included in the license,  
8 and each ITAAC is reviewed by our individual sections.  
9 In our branch we have a group who review all the  
10 ITAACs. There's roughly about 400 per branch. So,  
11 yes, each ITAAC is reviewed in detail, and we make  
12 sure they implement as designed.

13 So, if you want a particular reference for  
14 Vogtle, there is appendix C, which includes all the  
15 ITAACs. I don't know if that helps, but also there  
16 are regulations that they are supposed to meet, ITAAC,  
17 before they load the fuel.

18 CHAIRMAN BIER: Okay. So, I think the  
19 part of the answer that really responds to my question  
20 is that the agency inspects them on a sampling basis.  
21 That if there's 400 ITAAC it may not inspect every  
22 single one of them every year, but it double checks on  
23 things. Is that a fair summary?

24 MR. O'DRISCOLL: So, I just want to  
25 clarify that when you say every year, I want to be

1 sure that you understand, it's part of the licensing  
2 process as Chandu said. So, the idea is they're done  
3 once, the inspection, the ITAAC are completed once at  
4 the end.

5 CHAIRMAN BIER: Got it.

6 MR. O'DRISCOLL: Got it, okay.

7 CHAIRMAN BIER: I think so. I'll learn  
8 more later, I think we can move on. But anymore  
9 questions, or comments on this? Omid, I see you also  
10 have your hand up.

11 MR. TABATABAI: Yes, good morning Chairman  
12 Bier, this is Omid Tabatabai with the Office of  
13 Nuclear Reactor Regulation. With respect to ITAAC, as  
14 you said, there could be a thousand ITAAC, but the NRC  
15 inspectors do not inspect every single of them. There  
16 is a risk-informed prioritization scheme for ITAAC,  
17 and the licensees are required to notify the agency as  
18 they complete the ITAAC. And the inspectors inspect  
19 the closure of those ITAAC according to the  
20 prioritization, and risk information of those ITAACs.  
21 So, I just wanted to clarify that.

22 CHAIRMAN BIER: Okay. Thank you, this was  
23 very helpful to me. Any other members, or consultants  
24 that have questions on this slide? Okay, Chandu, your  
25 hand is still up, is that just from before? Okay.

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1 All right, now I can --

2 MR. PATEL: Sorry, sorry, I should have  
3 taken my hand off, this is Chandu Patel.

4 MR. O'DRISCOLL: Thanks for chiming in  
5 there Chandu, appreciate it. Okay, so we're on slide  
6 nine. This one is physical security of mobile reactors  
7 assembled core, so we can talk more about this. So,  
8 we're on slide nine, so I think we'll go quickly,  
9 because we covered a lot of this stuff. So, this  
10 topic was raised by Chairman Rempe as a general  
11 comment early in the last meeting.

12 The concern for the ACRS is the impact of  
13 physical security changes we are proposing on the rule  
14 on the potential licensing of future innovative  
15 designs with features including such things as a  
16 reactor core that is shipped to the site when fuel is  
17 loaded. So, as we discussed, there are two changes  
18 that we're proposing with respect to physical security  
19 in this rule. So, as we discussed last time we met,  
20 these two items, one of the items that we're working  
21 on is the protection of category two, and three  
22 special nuclear material.

23 We identified the need to close an  
24 exception for Part 50 nuclear power reactor licensees  
25 to align the security requirements for these reactors

1 to the security requirements that are already required  
2 for Part 52 reactors. The proposed alignment with  
3 physical security requirements itself would raise no  
4 new considerations that the staff would need to  
5 address for the topic of assembled cores in this  
6 rulemaking.

7 The second change we're proposing related  
8 to physical security is the timing which special  
9 nuclear material needs to be protected under existing  
10 section 73 67, or 73 55. Again, this change clarifies  
11 the existing regulations, and assures that there is no  
12 gap in the processes where one could argue that  
13 either, or both the regulations don't apply. This  
14 proposed change to physical security requirements  
15 itself would raise no consideration that the staff  
16 would need to address for the topic of assembled  
17 cores.

18 So, we've established that the issue of  
19 the physical security stuff that we're working on, and  
20 the issue of assembled cores is not impacted by what  
21 we're doing to the physical security regulations  
22 themselves in this rulemaking. But we did bring the  
23 issue to our DNRL, Boyce, and others. And one thing,  
24 I'll just say it again, one thing they wanted me to  
25 clarify is that we currently don't have any near term

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1 applicants considering commercial mobile reactors.

2 That is reactors that could be rapidly  
3 moved from one site to another for applications such  
4 as disaster relief, or something like that. The  
5 concept is currently covered under Department of  
6 Defense's Project Pele. Therefore we're not currently  
7 addressing mobile reactors in the existing regulatory  
8 framework, or in the 10 CFR Part 53 rulemaking. That  
9 said, there is commercial interest in portable  
10 reactors where the reactor is, as we said before,  
11 loaded at the factory with fresh fuel.

12 And then transported to a pre-approved  
13 fixed location, and then maybe transported back to the  
14 factory, or another location with used fuel. Your  
15 particular concern centered on the fact that many of  
16 the proposed changes in this rule are triggered by  
17 when fuel is loaded into the core. For example, our  
18 proposed requirements regarding the PRA updates  
19 discussed in section III.B.3 of the preliminary draft  
20 FRN, and the site access, and fitness for duty  
21 regulations we discussed in III.F.2 of the preliminary  
22 draft FRN.

23 So, your question was will these  
24 requirements be triggered when fuel is loaded off-site  
25 for an assembled core, or when the reactor arrives on-

1 site? So, and again, I'll give you the answer I think  
2 Boyce gave, but I just want to say it again. While  
3 this is a developing regulatory area, so the staff  
4 expects, consistent with the draft white paper on  
5 micro reactors licensing strategies, which I'll give  
6 you the ML number in a minute, that the requirements  
7 governing the loading of fuel in a factory before  
8 transport to the site would be governed by regulations  
9 other than Part 50 or 52.

10 These would entail requirements for  
11 material possession, transportation, and associated  
12 security requirements. So, that white paper is  
13 available in ADAMS under accession number ML21235 A as  
14 in apple, 418. Therefore requirements for combined  
15 licenses, and operating licenses that are tied to the  
16 loading of fuel would be triggered by the arrival of  
17 the fueled reactor to the site.

18 The NRC staff will continue to work in  
19 this area to finalize the agency's position. It  
20 should also be noted that exemptions, as Boyce said,  
21 are another regulatory tool available to provide  
22 relief from requirements that may not apply to certain  
23 technologies. So, another question you asked is if  
24 the requirements are triggered by the arrival of the  
25 fueled reactor at the site, what protections regarding

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1 fitness for duty, et cetera, are in place before the  
2 reactor arrives?

3 And the answer to that question is that  
4 before the fuel module arrives on the site, access  
5 will be controlled in the same manner as for any other  
6 construction site, under a construction permit, COL,  
7 or limited work authorization prior to fuel load.  
8 There is no apparent need to modify our current  
9 regulations in anticipation of the potential for  
10 shipped cores. So, are there any questions on this  
11 item?

12 DR. BLEY: Yeah, two things, this is  
13 Dennis. One, Quynh, would you make sure we get a copy  
14 of that white paper? I don't think it's up, but maybe  
15 it is. And two, when you began this discussion Jim,  
16 you talked about everything that's in place for  
17 shipping from the manufacturer to the facility, and  
18 return. I suppose somehow these shippable reactors  
19 would have to go through some kind of testing similar  
20 to what spent fuel casks go through if you're going to  
21 ship from where it was used to some facility. Have  
22 you guys thought about that?

23 MR. O'DRISCOLL: Let's see, is there a  
24 hand up from DANU?

25 MR. SMITH: Hey Jim, this is Brian Smith.

1 I'll just chime in real quick, and then Boyce can go.  
2 It was mentioned earlier, Project Pele, and their  
3 mobile reactor that they're developing now. We have  
4 been looking into these issues, along with the  
5 transportation staff, and NMSS. So, we have been  
6 evaluating the needs as compared to our regulations.

7 The fresh core would be shipped as fresh  
8 fuel, and wouldn't necessarily need all the testing  
9 requirements as a package would need for spent fuel.  
10 So, we have been looking at that. Boyce, do you want  
11 to chime in now?

12 MR. TRAVIS: Yeah, everything you just  
13 said was accurate. With regards to the shipping it  
14 back, I think that is still in the nascent stages, but  
15 I would expect there to be a similar level of review,  
16 and safety expectation to something like a spent fuel  
17 storage cask, or similar depending on the  
18 transportation method. But what that would look like,  
19 and how we'd go about that is still very much up in  
20 the air.

21 DR. BLEY: Okay, thanks.

22 MR. O'DRISCOLL: Okay, is there any other  
23 questions on this one? Joy, you have your hand  
24 raised?

25 MEMBER REMPE: Sure, Dave told me earlier



1 I sounded like I was talking from a tunnel, am I  
2 hearable okay now?

3 MR. O'DRISCOLL: I hear you fine.

4 MEMBER REMPE: Okay. But anyway, I  
5 appreciate this clarification, and again, I'm thinking  
6 about how others will be notified of this thing about  
7 okay, now all the requirements for a loaded core are  
8 going to be implemented when the module loaded with  
9 fuel, as Walt has tried to clarify for us, arrives on  
10 site. And it's not just security requirements, it's  
11 also, as we both have mentioned now, about a PRA.

12 Because now you need to have a level two  
13 PRA if I read the guidance, and what's been changed  
14 with this rulemaking effort, and I'm just wondering if  
15 everybody understands. Because again, I know we  
16 talked about the graded PRA approach, and Vesna  
17 brought that up earlier, and that was one of the  
18 reasons I was really glad you released all the  
19 guidance, because it's a little easier to discuss all  
20 this when we can see what's in, and what's not in all  
21 the reg guides that we're going to be talking about in  
22 the SRPs later today.

23 But I just am thinking about what's been  
24 done with the changes, and if it's well thought  
25 through, and I'll just leave it at that.

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1 MR. O'DRISCOLL: All right, I'll move on.  
2 So, this one is about digital I&C, we're on slide ten.  
3 So, the issue with digital instrumentation, and  
4 control licensing reviews came up at the last meeting  
5 during our discussion on the Part 52 change process  
6 topic. So, Member Brown described an experience last  
7 year when the staff, and the ACRS worked with the  
8 industry to obtain some additional flexibility in the  
9 use of 10 CFR 50.59 change process for the application  
10 to digital instrumentation and control.

11 This work resulted in a consensus on an  
12 industry standard, NEI 9607 Appendix D titled  
13 Supplemental Guidance for Application of 10 CFR 59 to  
14 Digital modifications. The main objective of that  
15 guidance is to provide all stakeholders a common  
16 framework, and understanding of how to apply 10 CFR  
17 50.59 process to activities involving digital  
18 modifications.

19 So, that new guidance superseded the 10  
20 CFR 50.59 related guidance contained in NEI0101/EPRI  
21 technical report, or TR-102348, which was titled  
22 Guideline on Licensing Digital Upgrades. And it also  
23 incorporates the 10 CFR 50.59 related guidance  
24 contained in regulatory issue summary, RIS 2002 22  
25 supplement 1, which is titled Clarification on

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1 Endorsement of Nuclear Energy Institute Guidance on  
2 Designing Digital Upgrades in Instrumentation and  
3 Control Systems.

4 So, Member Brown's question was does this  
5 work get affected, or carried forward with the changes  
6 the staff is proposing in this rule to the 10 CFR  
7 50.59 process? Will it be applicable to the Part 52  
8 process, and other licensing processes? So, looking  
9 at the transcript, it looks like I wasn't clear in my  
10 answer, so I'm going to try, and clarify it now, so  
11 good luck.

12 I went back to the staff's, and NRR's  
13 Division of Engineering for clarity. The answer is  
14 simply that there are no changes being proposed in  
15 this rule, to 10 CFR 50.59 change process, or any  
16 other change processes that would undo the consensus  
17 we obtained in NEI 9607 Appendix D. So, to be clear,  
18 the proposed rule does not contain any changes that  
19 would constitute back fitting in this technical area.

20 Current licensees can continue to perform  
21 digital upgrades, and modernize their I&C systems  
22 using existing applicable regulations, and related  
23 guidance documents. So, current licensees can  
24 continue to perform screening, and evaluation of  
25 digital upgrades in accordance with 10 CFR 50.59 rule

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1 using NEI 9607 Appendix D guidance as endorsed by the  
2 current revision, and proposed revision of Reg Guide  
3 1.187.

4 Current licensees can continue to use the  
5 interim staff guidance. Digital I&C-ISG-06 Rev 2 to  
6 inform preparation of license amendment requests for  
7 digital upgrades. The changes to Reg Guide 1.187 from  
8 the proposed 10 CFR Part 50, 52 alignment rulemaking,  
9 which we'll talk about later in this meeting, I hope,  
10 do not impact the endorsement of NEI 9607 Appendix D  
11 Rev 1, supplemental guidance for application of 10 CFR  
12 50.59 to digital modifications.

13 Therefore future licensees can perform  
14 digital upgrades using the current guidance. The  
15 proposed 10 CFR Part 50, 52 alignment rulemaking does  
16 not have any impact on the 10 CFR 50 55A paragraph H  
17 rule that incorporates by reference IEEE standard 603  
18 1991. So, the staff will review planned I&C system  
19 designs submitted under the aligned Part 50 and 52  
20 using current applicable review guidance documents.

21 That is NuScale design specific review  
22 standard that's in the example of that, and I can tell  
23 you what that ML number is. I'll say it, it's  
24 ML17102A698. Also the design review guide for non-LWR  
25 designs, and modernized, which I'll give you that one,

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1 that one is ML21011A104. And then also for non-light  
2 water reactor designs, the modern standard review plan  
3 SRP Chapter Seven, which has yet to be written. Any  
4 questions on that?

5 MEMBER BROWN: Yes.

6 MR. O'DRISCOLL: Okay.

7 MEMBER BROWN: You blew right through  
8 that. I understand your reading, where you say there's  
9 no changes to 10 CFR 50 55A, one of my questions, I've  
10 just been going back, and reading the transcript from  
11 the last meeting again, for the third, or fourth time,  
12 and the issue I was bringing up is you said you're not  
13 carrying forth anything in the 50.59 area up to 52  
14 changes.

15 If you read through your transcript, you  
16 all considered it wasn't applicable, or didn't have  
17 any effect, or something like that. And my point  
18 being was we made a lot of very critical decisions on  
19 how we make I&C changes, and yet those critical issues  
20 don't seem to be in 52 in the same way. You did not  
21 make any changes relative to Part 50.59 -- I've  
22 forgotten what the numbers, the alphabet soup is.

23 C1 through VIII, those were the critical  
24 elements we worked on with 1.187. So, it seems to me  
25 now you're making these changes, and yet all that

1 stuff we did is not covered under Part 52, you did not  
2 consider it necessary to change part 52 to make sure  
3 these changes could be implemented for a Part 52  
4 licensee. And I didn't understand why we were going  
5 to now go backwards in time, a Back to the Future-type  
6 flux capacitor approach to doing business in terms of  
7 making I&C changes.

8 So, that was my third question of the  
9 multiple ones we just ran through. So, I still don't  
10 understand why Part 52 licensees are not going to be  
11 able to -- if they have plants, make changes without  
12 getting tied up in all the quagmire that we have had  
13 to deal with for Part 50 licensees.

14 MR. O'DRISCOLL: Okay, so that, I'm not  
15 quite sure I have the full understanding of this  
16 topic. And we do have folks from DEX on the line, but  
17 just to clarify, the gist of the point we're trying to  
18 make here is that all that work, my understanding is  
19 it has been put into guidance. And that's NRC  
20 guidance, and that guidance should be used as the  
21 recommended path forward to addressing one of these  
22 upgrades, or making changes.

23 And of course it's not a regulation,  
24 guidance can be -- you can depart from it if somebody  
25 chose it, but then you get back into your quagmire

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1 situation. But what my understanding was is that if  
2 you followed these revised NEI guides, et cetera,  
3 there shouldn't be any issues as far as us being able  
4 to efficiently review a digital I&C upgrade.

5 MEMBER BROWN: It's just not clear to me,  
6 that's all. 50.59 is Part 50 licensees, Part 52 is  
7 licensed under Part 52, and there apparently are not  
8 equivalent words there. Don't ask me, I've lost the  
9 bubble on connections between 52, and 50, what was  
10 carried over, if anything. That happened way before  
11 my time. So, I couldn't find anything in Part 52 that  
12 was equivalent. So, that's my lack of understanding  
13 that we're clear.

14 It was a big battle, there were a lot of  
15 compromises made. The staff, and NEI, and the  
16 industry agreed on a suitable approach, it was  
17 documented in Appendix D, And the Reg Guide 1.187 was  
18 written without clarifications on it. So, I'm still  
19 puzzled, and don't understand why, if we're really  
20 clear, that's all.

21 MR. O'DRISCOLL: Can I ask a follow up  
22 question? So, I think the question, the relationship  
23 between 50.59, and what we call the 50.59 like  
24 process, and how different they are. Is that really  
25 the issue, or the question? Because those two

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1 processes are very similar, in fact we're doing things  
2 in this rulemaking that even make them more the same.  
3 So, I'm struggling with what criterion in 50.59 that  
4 exist, that needs to exist in the 50.59 like process.  
5 I don't know --

6 DR. BLEY: This is Dennis, may I interrupt  
7 a second? Charles, I can't quite remember the  
8 details, but I think the issue you're hanging up on,  
9 and let me try this, and see if I'm right, is when  
10 they reached that compromise, and supported the  
11 industry document, there was language in there that it  
12 applied to operating facilities, and not new  
13 licensees. So, I don't think it was in the rule, I  
14 think it was in the guidance. Is that correct, or do  
15 you remember?

16 If not the people from the staff, and I&C  
17 here, I don't see anybody quickly looking, they might  
18 be able to clarify that for us. It might just be the  
19 guidance, and then the question is if they wrote it in  
20 just for operating plants, does that lock it into  
21 people who were operating at the time they did the  
22 guidance?

23 MR. O'DRISCOLL: So, this is Jim  
24 O'Driscoll. Dinesh, can I ask you, you were specific  
25 to that review, you have your hand up, please go



1 ahead.

2 MR. TANEJA: Good morning, this is Dinesh  
3 Taneja from Division of Engineering. So, I think when  
4 we set operating reactors, regardless of whether those  
5 are licensed as a combined license, or as Part 50  
6 operating license, once it's operating, that guidance  
7 would apply to evaluate any changes to the I&C  
8 systems. So, the 50.59 like process for the 52  
9 combined license plant, the distinction was that there  
10 are changes being made, you have a combined license,  
11 and during construction you're making changes.

12 You are not fueled yet, you are not  
13 operating yet. So, there is a process that has to  
14 control how you make changes. So, we have an example  
15 of Vogtle, Vogtle has made a number of changes using  
16 that 50.59 like process, and there are some changes  
17 they were able to make without coming to the NRC for  
18 prior approval, and some they submitted to ours, and  
19 I'm talking strictly about the I&C related changes.

20 So, that distinction, but once Vogtle  
21 starts operation, then this guidance is applicable,  
22 it's basically an operating reactor. That's our  
23 thought process.

24 MEMBER BROWN: Well, I'm looking now at  
25 the changes to Part 52, and they added an item number

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1 nine, and number ten. For a power reactor licensed  
2 after effective date, and for a power reactor licensed  
3 after another effective date of final rule. And they  
4 added a new set of categories, result in a substantial  
5 increase in the probability of an ex-vessel severe  
6 accident such that a particular ex-vessel severe  
7 accident previously evaluated, and determined to be  
8 not credible could become credible.

9 And my concern was now we make a change  
10 from analog to digital I&C after a Part 542 like  
11 Vogtle is operating, they're a Part 52 plant, aren't  
12 they?

13 MR. TANEJA: Correct.

14 MEMBER BROWN: Okay, I thought I  
15 remembered that. And now they get out, and now all of  
16 a sudden these two new things pop in --

17 MR. O'DRISCOLL: Sorry to cut you off  
18 Member Brown, I can explain that real quick. So we  
19 added -- you're right, those are new provisions we're  
20 adding to Part 50.59, and the reason why we're adding  
21 those, and they have an applicability date moving  
22 forward at the final rule, is because we expect that  
23 newly built Part 50 plants that are licensed after  
24 this rule goes final need to evaluate severe accidents  
25 when they do their 50.59 process.

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1           Those two criterion are exactly the same  
2           as what's in all the D, C appendices Section VIII, I  
3           think it is Section VIII, where we describe the change  
4           process. So, the 50.59 process, if you want to know  
5           where that lives, it's written in every design  
6           certification in one of the sections. Off the top of  
7           my head, it's identical amongst all of those -- all  
8           the designs we've approved.

9           So, what we had to do, is we saw that if  
10          we're going to demand -- not demand, we're going to  
11          require PRA for a future Part 50 licensee, and make  
12          that part of their licensing basis, and they need to  
13          consider severe accidents, which is our item 1A in  
14          this rule, then they need to be able to have a control  
15          process for changes for that, and that's why the  
16          criterion needs to be added. Does that help?

17          MEMBER BROWN: No, I'm not sure. It just  
18          seems like we've changed the wording. When we did  
19          50.59, and this was a while ago, we did this over two  
20          years ago. And it was 50.59C2, and I believe it was  
21          items seven, and eight, or six, and seven where they  
22          talked about a design basis limit, or a malfunction of  
23          NSSC with a different result, and how you interpret  
24          those different results that you have to submit an  
25          LAR.

1           And that was so vague that that was  
2           creating problems, and licensees of the operating  
3           plants had been reluctant to go forward with a lot of  
4           upgrades to their systems, to modernize them, and make  
5           them perform better. And now we've added, and we  
6           clarified what that meant via the Appendix D, and the  
7           language that NRC signed off on when we finally came  
8           through with the final conclusions on it, in terms of  
9           the examples, and stuff in Appendix D.

10           So, now we put two other things in there  
11           that seem to widen this out to cover everything no  
12           matter what, and my concern is that we've lost the  
13           bubble again in terms of backing people into the  
14           corner to upgrade their systems regardless of what  
15           they started with in the beginning.

16           MR. TANEJA: Member Brown, Dinesh again.  
17           So, my understanding is that this 50 52 alignment  
18           rulemaking as our proposed revision to our Reg Guide  
19           1.187.

20           MEMBER BROWN: Well, they decided not to  
21           make any changes to 1.187, they said no changes were  
22           going to be made.

23           MR. TANEJA: Right, so that guidance that  
24           we endorsed continues to be effective, right? Because  
25           specifically, the Appendix D that we endorsed in

1 revision two of the Reg Guide 1.187 will continue to  
2 move forward was is. It's not going to be impacted.

3 MEMBER BROWN: But does the new nine, and  
4 ten impact the clarifications, and resolutions that  
5 you guys came through with in the Part 50 when we --  
6 you're implementing Reg Guide 1.187, I've forgotten  
7 what the new rev is, rev two, I just don't remember  
8 the number, whatever the new revision was we were  
9 dealing with. So, now does this change that? Because  
10 they are so general, and so expansive that I'm worried  
11 that the compromises -- I don't want to call them  
12 compromises -- the agreement you all reached with NEI  
13 effectively submarined those.

14 MR. TANEJA: So, I think there are two  
15 things. One thing is that the 50 52 alignment does  
16 not have any back provisions. So, the effective date  
17 would be before these future licensees that would have  
18 the necessary licensing basis in place that are not  
19 there right now for the operating reactor. So, those  
20 don't have to be evaluated. But for moving forward,  
21 these would be the licensing basis.

22 So, they would have to assess any impact  
23 to those license basis as a result of a change that  
24 they are going to make to the facility.

25 MEMBER BROWN: Does -- go ahead, I'm

1       sorry.

2                   MR. TANEJA: But when it comes to making  
3 changes to the I&C assessment, I don't know whether  
4 I&C changes would be all risk-informed moving forward,  
5 or how that is, but right now what we are envisioning  
6 is that Appendix D is not impacted by this proposed  
7 rulemaking.

8                   MEMBER BROWN: Well, I think that's kind  
9 of optimistic, the plants start operating, and now  
10 there's two new items in C which are extremely  
11 expansive. Has industry agreed with these words in  
12 the new Part 52? Do they agree that this doesn't  
13 affect the Part 50.59 changes that we made two years  
14 ago?

15                   MR. O'DRISCOLL: We haven't got a  
16 statement, or a response from industry specifically on  
17 that topic, on whether what we're doing with 50.59  
18 undoes things we've agreed to in digital I&C reviews.  
19 But I would try to emphasize that these provisions  
20 that you're saying are expansive, they already exist  
21 in our licensing. These aren't new reactor licensing.  
22 They already exist in the 50.59 like processes that  
23 the Vogtle has to comply with.

24                   So, they're already there, but what we're  
25 trying to say is if you come in with a brand new

1 design, a brand new sheet of paper, and you choose to  
2 design it, license it under Part 50, guess what? That  
3 license, once approved, is going to be granted after  
4 the final date of this final rule. They will be  
5 subject to those two new provisions, that they have to  
6 evaluate severe accidents when they're making changes.

7 MEMBER BROWN: So, they are impacted.  
8 Whatever was done on 1.187 rev one, or two, whatever  
9 the appropriate number is, and the Appendix D, they  
10 are impacted then after these dates, for the Part 50?

11 MR. O'DRISCOLL: When we say no changes --

12 MEMBER BROWN: That's a disaster.

13 MR. O'DRISCOLL: Yeah, when we say no  
14 changes to 1.187, we're saying no changes to 1.187  
15 relates to this digital I&C stuff. But as you can see  
16 in the markup of 1.187, you can see where those  
17 changes were made in the preliminary draft reg guide  
18 that we gave you guys.

19 MEMBER BROWN: For these changes?

20 MR. O'DRISCOLL: Yeah.

21 MEMBER BROWN: You all decided not to make  
22 any changes, according to your slide you said you  
23 weren't going to change 1.187.

24 MR. O'DRISCOLL: Yeah, for this issue.

25 MEMBER BROWN: Yeah.

1 MR. O'DRISCOLL: Right.

2 MEMBER BROWN: So whatever's in place when  
3 you do this, stays in place. Whatever revision,  
4 whatever Appendix D, which was covered in rev, I wish  
5 I could remember the rev, whatever the latest revision  
6 is. Now when they go forward in these plants, they've  
7 got these two more expansive conditions under Item C  
8 that could impact what was done for sections seven,  
9 and eight, or six, and seven, or whatever they were  
10 for the clarifications that we made before.

11 And you're saying they're someplace else,  
12 but boy that's not obvious where they are. The  
13 present 50.59C has eight specific conditions, and  
14 those were the ones that were worked out with this  
15 agreement on how we issued, or how the staff agreed  
16 with Appendix D. And I just -- I'm very, very  
17 concerned that as this plant goes forward, now there's  
18 a whole new set of conditions, which force them, if  
19 they want to make a major upgrade, like they go from  
20 analog to digital in the old days, now they go from  
21 one digital concept to another digital concept.

22 They're impacted, and they're back to  
23 square one again as technology improves. There's no  
24 relief here, it just seems like we've put another 5000  
25 pound stone on the backs of the licensees in order to



1 keep these plants modern.

2 MR. O'DRISCOLL: So, all I can say is that  
3 for sure, that was not our intent. And certainly if  
4 it's a nuance we missed on this, then obviously we're  
5 going to look at this. We have PRA folks working on  
6 this rule, we have DEX folks working on this rule.  
7 We're pretty confident, or we are very confident that  
8 what we're proposing should not impose an undue  
9 regulatory hurdle for future plants.

10 In fact we're trying to help things out in  
11 fact. If that is the case, then we need to address it  
12 for sure.

13 DR. BLEY: A little clarification, the  
14 eight criteria Charlie is talking about were not  
15 changed. The big problem at the time was one of those  
16 was interpreted quite differently by the staff, and by  
17 industry. And eventually in the guidance they came to  
18 an agreement on how to deal with that. And I'm not  
19 sure, I guess from what Charlie is raising, it's  
20 possible there could be a disagreement over what the  
21 new language means. That would be the place this  
22 would become troublesome.

23 MEMBER BROWN: Yeah, that's the point I'm  
24 trying to make. Maybe I phrased it wrong, but we've  
25 got two new things, and those two new items they put

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1 in are very expansive, and literally I can't express  
2 how overwhelmingly expansive they are. And that now  
3 all that work is subsumed when you throw these two  
4 items in. It makes me difficult to be able to write  
5 a letter on this when we finish our full committee  
6 meeting that says we agree with this particular  
7 changes. That's all -- let me finish -- until we know  
8 whether industry is not going to balk at this.

9 DR. BLEY: Well, the problem doesn't exist  
10 a priori, it's after there's something to evaluate,  
11 and the staff reads the words different --

12 MEMBER BROWN: I understand that.

13 DR. BLEY: Charlie, exactly where in the  
14 rule are these two criteria you're talking about?

15 MEMBER BROWN: They added two new items  
16 after items I through VIII. It's in -- they added IX  
17 and X.

18 MR. O'DRISCOLL: Right, so specifically  
19 these items are discussed in section 3A of the  
20 preliminary draft FRN on severe accidents. And we  
21 added those to address what we're doing with severe  
22 accident requirements, which is one of the alignment  
23 items that is in this rulemaking.

24 MEMBER BROWN: It used to be C2 V through  
25 VIII. Now, there's a new IX, and a new X, and they

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1 are very expansive. It's on page -- I don't even know  
2 what page it is right now, I can't read it.

3 MEMBER REMPE: While you're looking for  
4 that Charlie maybe you ought to let Chandu, and Mike  
5 Waters have a chance.

6 MEMBER BROWN: Joy, hold on please.  
7 They're on page 265 of the FRN material we were given  
8 for the February 1st review. Well, actually 264 it  
9 starts on, they changed an and to an or, which was  
10 irrelevant, up in the other text. But the page 265 of  
11 the FRN, at least I've downloaded that we've had since  
12 that meeting.

13 CHAIRMAN BIER: So, I would like to give  
14 Chandu, and Michael Waters a chance to comment.

15 MR. PATEL: Yeah, this is Chandu Patel,  
16 I'm a senior project manager in NRR. At least I can  
17 clarify a little bit. As far as Part 52 plants are  
18 concerned regarding 50.59 process for I&C, there is no  
19 change. My understanding -- I think we might have  
20 Malcolm Patterson online, and he's the one responsible  
21 for adding those items, but basically they are trying  
22 to make Part 52, and Part 50 consistent as far as the  
23 CVRX issues are concerned.

24 So, as far as Part 52 are concerned,  
25 there's no changes. I hope that is clear.

1 MEMBER BROWN: Nope.

2 MR. PATEL: So, that was the intent of all  
3 these things, they want to make --

4 MEMBER BROWN: They weren't in 50.59  
5 before, they may have been listed somewhere else in  
6 part -- the overall, general -- but here, 50 has a  
7 very definitive process for making changes, and what  
8 constitutes changes that require an LAR. And now two  
9 major, big bullets have been popped into that 50.59  
10 context that you added as part of this change.

11 MR. PATEL: Okay, so, I suspect that if  
12 you look at any Part 52 branch changes in Appendix  
13 Roman numeral eight, there are Part 50.59-like type of  
14 process. There are things there to consider for Part  
15 52, and my understanding is these criteria were not  
16 there for in Part 50 plants. Okay, 50.59 process, so  
17 they apparently make it consistent. I guess Malcolm  
18 is not there, but Jim you --

19 MR. O'DRISCOLL: I agree 100 percent with  
20 what you're saying there.

21 MR. PATEL: So that's what it is  
22 basically. Part 52 plants are not -- I can tell you  
23 with 100 percent guarantee, that Part 52 plants are  
24 not affected by this 50.59 process.

25 MR. PATTERSON: This is Malcolm Patterson.

1 I agree with what Chandu has said. I don't think I  
2 have anything to add. These two tests were added to  
3 Part 50 to align it with Part 52. It's already in  
4 Part 52, I don't know what more to say about it.  
5 Aligning the two --

6 MEMBER REMPE: So, to make it real clear  
7 -- excuse me for interrupting, but to make it real  
8 clear for all the members, send Quynh an email  
9 afterwards, and just show us the section where it is  
10 in 52, and that might help, right?

11 MEMBER BROWN: Well, Joy, they're  
12 translating these back. They're saying these are in  
13 Part 52, and therefore they're moving them somewhere,  
14 don't know where --

15 MEMBER REMPE: That's what I'm saying,  
16 just show us the somewhere, and that will end some of  
17 this argument, right?

18 MEMBER BROWN: Let me finish, no. Because  
19 they are taking them out of Part 52, and moving them  
20 back into Part 50 that now get covered under 50.59,  
21 and these were two items that are very expansive.

22 DR. BLEY: We are leaving them in Part 52,  
23 and adding them to Part 59, and we do not see them as  
24 a large burden for a new reactor under Part 50 because  
25 that reactor will have addressed severe accidents in

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1 its application.

2 MEMBER BROWN: What about current plants?

3 DR. BLEY: It does not apply.

4 MR. O'DRISCOLL: They're not effected.

5 So, let me try to explain. There is an applicability  
6 date that is in the language that says reactors  
7 licensed after X date, which is like let's say 2024.  
8 So, if you're an older plant, those would not even  
9 apply, it's like they don't even exist for you. They  
10 only exist for the new -- if somebody decides to come  
11 in tomorrow, and decides to do their license under  
12 Part 50, guess what? You're now on the hook for  
13 severe accidents. But the folks that already have a  
14 license, already are doing changes, this completely  
15 does not affect them.

16 MEMBER BROWN: I got that point.

17 CHAIRMAN BIER: Okay, so if I can  
18 interrupt briefly Charlie, it seems like we have two  
19 things going on. One is do we understand what staff  
20 is doing, and the second is do we agree with it?

21 MEMBER BROWN: Yes.

22 CHAIRMAN BIER: And we don't need to  
23 discuss the do we agree with it right now during this  
24 meeting, as long as we can get, as Joy mentioned, the  
25 documentation of exactly what changes are being made

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1 where, and that kind of information so that we can  
2 write an informed letter later. Michael Waters, you  
3 had your hand up for a while, do you still want to  
4 speak?

5 MR. WATERS: Yes, this is Mike Waters,  
6 chief of Instrumentation and Control Branch. I just  
7 wanted to maybe help confirm what Charlie was saying.  
8 It is correct that we did update Reg Guide 1.187 to  
9 endorse NEI 9607 Appendix D. And the reason for doing  
10 that was the struggle of industry, and the challenge  
11 of digital upgrades to address permanently common  
12 caused failure, and you're correct, how do we address  
13 criteria six, a malfunction different result.

14 So, I just want to offer Charlie that it  
15 sounds like your question is really more of a 50.59  
16 question, because we endorse NEI 9607, and the  
17 licensee has to address -- the licensee addresses  
18 those eight criteria, and we've endorsed NEI 9607 as  
19 a way to address those eight criteria.

20 MEMBER BROWN: With Appendix D.

21 MR. WATERS: With Appendix D. Appendix D  
22 actually complements it, right? And if there's no  
23 guidance for a new criterion nine, and ten, then the  
24 person would go to 9607. If there's no criterion for  
25 nine, and ten, I think that may be your question. To

1 me, it's more of a question of what's our future  
2 guidance look like for addressing criterion nine, and  
3 ten. I really don't see it as a digital question, but  
4 that could be one thing that could be effected.

5 So, it sounds like we need to circle back  
6 to you with exactly what we're doing with the  
7 additional criterion nine, and ten, and our future  
8 guidance of do we need future guidance to endorse how  
9 to address these two criterion.

10 MEMBER BROWN: One of my concerns, yeah --  
11 I'm just worried, okay? It's been like a lachrymose  
12 industry for 20 years without any substantial  
13 incorporation of upgraded digital I&C systems. And  
14 I'm just deathly afraid. I see the effective dates,  
15 but somehow when we get to the full committee meeting,  
16 I hope somebody can come in, and explain exactly why  
17 this is not going to impact, number one, operating  
18 plants today.

19 I understand the effective dates part.  
20 And number two, a new plant executed under, or  
21 licensed under Part 50, if somebody comes in, and  
22 wants to do it under Part 50, because that's always a  
23 possibility, that these are out of the bounds of the  
24 digital I&C for a specific reason.

25 MR. WATERS: So, I agree. I suspect a



1 future plant is going to be significantly digital, and  
2 the issue of going from analog to digital will be less  
3 --

4 MEMBER BROWN: Absolutely, I understand.

5 MR. WATERS: Especially with interest in  
6 these new failure modes associated with digital. I  
7 would hope that those failure modes would be addressed  
8 as part of the licensing basis for a future plant.

9 MEMBER BROWN: I would think so, but if  
10 somebody comes in who has to modify an upgraded  
11 digital system --

12 MR. O'DRISCOLL: It doesn't apply then, it  
13 wouldn't apply.

14 MEMBER BROWN: If it's after this  
15 effective date --

16 MR. O'DRISCOLL: No, I'm sorry Member  
17 Brown, it is for only those plants that have received  
18 their license after that date. So, let's say you're  
19 either --

20 MEMBER BROWN: You can stop, I've got  
21 that, what if somebody builds a new plant under Part  
22 50?

23 MR. O'DRISCOLL: Yes, then I think the  
24 other -- it goes back to Mr. Waters' point is that  
25 you're digital, you're digital from the get go, if

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1       you're brand new.

2                   MEMBER BROWN: Unless they make a change  
3       to the digital system, or somebody decides well does  
4       that effect severe accidents, or not? How does it get  
5       worked into that thought process?

6                   MR. O'DRISCOLL: Yeah, okay.

7                   MEMBER BROWN: And I think that's what  
8       Mike was addressing.

9                   CHAIRMAN BIER: Chandu, you had your hand  
10      up for a minute, do you still want to make a comment,  
11      or?

12                  MR. PATEL: Okay, just a minute, this is  
13      Chandu Patel. As far as Part 52 plants are concerned,  
14      I can give you reference, just like any Appendix,  
15      Section VIII.B.c, that's where the serious accident is  
16      issued, and that's not going to change.

17                  MEMBER BROWN: Where was that --  
18                               (Simultaneous speaking.)

19                  MR. PATEL: It's Appendix D Section VIII  
20      B like boy, capital B, and then small c. That's where  
21      the serious accident issues are discussed, and that is  
22      not going to change for Part 52 plants.

23                  CHAIRMAN BIER: Dennis, you have a  
24      question, or a comment.

25                  DR. BLEY: Two, just comments, a couple of

1       them. One is Quynh, when you distribute this material  
2       to the committee, if you could also include the  
3       committee's two letters on this issue, that would  
4       probably be helpful for anybody who wasn't here for  
5       both of them. And two, Mike Waters, maybe this is  
6       aimed at you. If the staff has had any discussions,  
7       open meetings with, being particular, NEI, or other  
8       stakeholders on how these two new criteria would be  
9       interpreted, and can tell us about that at the full  
10      committee meeting, that would probably be very  
11      helpful, that's all.

12               MEMBER BROWN: Thank you Dennis, that's  
13      what I was hoping we would get at the full committee  
14      meeting also, explain that to us.

15               MR. WATERS: Sure, we'll be happy to  
16      circle back with James. I do not know of any  
17      discussion on my side of the area with industry, and  
18      digital I&C for criteria nine, and ten. Again, I  
19      think we should be able to give a little bit clearer  
20      response on how criteria nine, and ten will be  
21      applied. And it's not done just digital questions, or  
22      any change in the future plan.

23               MEMBER BROWN: Yes.

24               CHAIRMAN BIER: Thank you.

25               MR. O'DRISCOLL: Thanks Mike.

1 CHAIRMAN BIER: So, I think there is only  
2 one more slide on digital I&C, and maybe after that we  
3 should take a short break.

4 MR. O'DRISCOLL: Okay, so this is the  
5 slide with all that answer. Okay, so for I&C system  
6 designs in future applications submitted for design  
7 certifications, or standard design approvals, the  
8 staff will continue to ask for the level of detail  
9 necessary to make a reasonable assurance of safety  
10 finding. That is the changes we are making to the  
11 definition of essentially complete are not intended to  
12 affect these reviews.

13 The use of design acceptance criteria, or  
14 DAC, which was brought up at the last meeting, I  
15 brought it up for I&C designs, is not needed. For  
16 example NuScale, and APR 1400 reactor designs have  
17 been certified without the use of I&C DAC, so that's  
18 not changing. Any further questions? And then we can  
19 go to break.

20 MEMBER BROWN: I just want to thank you  
21 all for being as patient with me as you have been.  
22 I'm just -- if we had industry input into this to  
23 start out with, then I probably would have walked  
24 away, but I didn't, but we'll cover that later  
25 hopefully. So, thank you very much.

1 CHAIRMAN BIER: Dennis, you still have  
2 your hand up, is that just an accident, or? Okay,  
3 Joy?

4 MEMBER REMPE: Okay, so we can do this  
5 after lunch, I'll let the staff decide. But this is  
6 the only place where I saw anything about standard  
7 design approval changes, and at the last meeting  
8 Consultant Bley brought up a question about SDAs, and  
9 a paragraph needed in Section 52.93 on exemptions, and  
10 variances, and I didn't see any additional discussion  
11 in this whole presentation about his point. And  
12 perhaps that means staff agrees with it, or did staff  
13 have any response, and we should just go with what we  
14 heard before?

15 MR. O'DRISCOLL: I thought that one was  
16 resolved Chairman Rempe.

17 MEMBER REMPE: Well, I looked at the  
18 transcript, and I thought you said -- again, there  
19 were a lot of issues we brought up, so I could be  
20 wrong, but I thought you said well, that might be a  
21 good point about needing that paragraph for SDAs, and  
22 we'll get back to you is how I remember it. But I'm  
23 getting old, and maybe I've forgotten.

24 MR. O'DRISCOLL: Okay.

25 MEMBER REMPE: I see Amy's hand up.

1 MR. O'DRISCOLL: Amy's hand is up, Amy  
2 would you like to chime in on this?

3 PARTICIPANT: Certainly Dr. Rempe, I was  
4 not on the previous meeting, so please correct me if  
5 I'm getting the question wrong here. But as I  
6 understand it, you're asking does there need to be  
7 basically a change process for SDAs that would be  
8 exemptions? And the SDA does not involve a  
9 rulemaking, so are you talking about a future  
10 applicant taking changes from the standard design  
11 approval?

12 MR. O'DRISCOLL: Yeah, so Amy, we are  
13 proposing in this rulemaking, because of the fact that  
14 we are eliminating the SDA durations, just like we're  
15 eliminating DC durations, that we needed to establish  
16 regulations, or a regulatory pathway for an SDA holder  
17 to make generic changes, and for someone who is  
18 referencing an SDA to make a specific change to an SDA  
19 in an application.

20 So, what we did is we're actually  
21 proposing a brand new process for the first time in  
22 this rulemaking on that.

23 PARTICIPANT: Okay, but however the SDA  
24 does not involve a rulemaking, so if the ACRS question  
25 was should there be a process for exemptions, there

1 would not need to be exemptions if someone were to  
2 take a departure from the SDA when they reference it.  
3 I think they would simply provide alternate  
4 information for staff review in their combined license  
5 application.

6 MR. O'DRISCOLL: That's right.

7 PARTICIPANT: Does that answer your  
8 question Dr. Rempe?

9 MEMBER REMPE: Let me think about it, but  
10 I know that Dennis had wanted, or suggested that  
11 perhaps if something had not been thought of, that the  
12 rules under Part 52 would apply. Consultant Bley is  
13 on the line --

14 DR. BLEY: Yeah, I'm here.

15 MEMBER REMPE: Do you want to elaborate  
16 more on your point? I'm afraid I'll misquote it.

17 DR. BLEY: Certainly. Jim walked us  
18 through the addition that allows specific changes that  
19 were raised by people, and built that into the new  
20 rule. And I wondered if there was a way to add  
21 something generic to Part 52 that would allow one to  
22 use the processes established for design certs for  
23 combined licenses under an SDA in general. And Amy,  
24 you said it's not a rule.

25 But I thought when I read it, it is a

1 rule, or it's another -- I have to go back, and look  
2 at Part 52. But right there it says there will be an  
3 Appendix for the SDA.

4 PARTICIPANT: So, a standard design  
5 approval in, and of itself does not culminate in a  
6 rulemaking unless the applicant seeks a design  
7 certification.

8 DR. BLEY: Okay, but a COL under that  
9 would?

10 MR. O'DRISCOLL: Right, and they would be  
11 governed by the FSAR. So, I think at the last meeting  
12 we brought this up, and I think you're talking about  
13 the 50.59 like process that exists for changes in the  
14 DC realm. And we agreed, and I thought we explained  
15 that that process wouldn't be appropriate for an SDA  
16 holder for a number of reasons.

17 The biggest reason is that if you have a  
18 change process like a 50.59 process where you can make  
19 changes without prior NRC approval if you meet certain  
20 criteria, then that assumes that that person that is  
21 doing that evaluation, that SDA holder has got all the  
22 things they need to have to have good records, et  
23 cetera. They need to have a good QA program, have it  
24 all acceptable, and all this.

25 And that's a lot of stuff to ask for folks



1 that are desiring an SDA. What we understand is that  
2 folks that desire to go the SDA path, and not get an  
3 SDA in rulemaking is an entity that doesn't want to  
4 necessarily have the obligations of all the record  
5 keeping, et cetera that's required to keep a DC in  
6 good health. Does that make sense?

7 PARTICIPANT: Yeah, ultimately it would  
8 all be referenced in the combined license, and would  
9 be governed under the change process that would be for  
10 combined licenses, the change process for an FSAR as  
11 if it was a custom COL.

12 MR. O'DRISCOLL: We use the term subsumed,  
13 so the SDA is basically subsumed into the FSAR.

14 DR. BLEY: It's the FSAR, yeah I think you  
15 did go through this for us Jim. If you're doing a  
16 combined license under a design cert, you either  
17 accept each element in the DCD as is, or you provide  
18 an exception to them. You don't need to do that if  
19 you're using an SDA because you're writing the full  
20 thing, the full FSAR, and you can't accept things by  
21 reference, you have to include everything.

22 MR. O'DRISCOLL: Right, and the whole  
23 enchilada is subject to ASLB, and Commission hearing.  
24 The SDA does not have the same level of finality as a  
25 DC, so that's why you can go this way. I mean it's

1 going to be looked at by the Commission, but under the  
2 auspices of a one off license. A COL that references  
3 an SDA just sucked into their FSAR, and we do that  
4 application.

5 CHAIRMAN BIER: Dennis Galvin, I see a  
6 hand.

7 MR. O'DRISCOLL: Dennis, yes, he was the  
8 author of this, so Dennis, please go ahead.

9 MR. GALVIN: So, let's just clarify,  
10 because I think there's some staff here who weren't  
11 here last time. So, we are proposing a change  
12 amendment process for SDA holders, and we are also  
13 proposing a change process for COLs to take  
14 departures, or changes from SDAs. So, we are putting  
15 that into the rule. Right now the rule is silent on  
16 that, I guess theoretically they could do that, but  
17 we're making it explicit, and we're providing a  
18 process.

19 In the end, the SDA will be subsumed into  
20 the COL. So, we are saying in the end, the rule would  
21 require them to justify any departures from the SDA.

22 DR. BLEY: I think this is where I get  
23 confused. If the FSAR stands on its own, then we  
24 don't need this provision. If you don't have finality  
25 on the SDA, making some kind of big deal here about

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1 departures from it seems unnecessary because it hasn't  
2 been fully approved yet. And if you do it for this,  
3 that's where my question had come up, you probably  
4 ought to have something more general to allow other  
5 deviations to be covered.

6 But I guess where I am right now following  
7 this long discussion, is adding this new part doesn't  
8 make any sense to me if you've got to review the whole  
9 FSAR.

10 MR. O'DRISCOLL: Right, so maybe I can  
11 help with that one. So, there is a value in having an  
12 SDA, it does provide a level of finality. A staff  
13 review is done -- I'm sorry, go ahead Dennis.

14 MR. GALVIN: So, they do have finality  
15 with regard to the staff, and the ACRS with regard to  
16 an SDA. So, anything that's in the SDA that's  
17 unchanged, and incorporated into the COL is sort of  
18 off limits for the staff review, and ACRS review,  
19 because you've already approved it. So, they need to  
20 be a justification if they depart from what the staff  
21 reviewed, and the ACRS reviewed.

22 And so whatever they depart from, or  
23 change, would then be subject to staff, and ACRS  
24 review. Of course the finality with the rulemaking  
25 extends into ASLB for design certification, ASLB, and

1 the Commission, but that's not the case, because the  
2 SDA doesn't go to them. So, I think there is  
3 finality, and it does impact the committee.

4 DR. BLEY: Yeah, I guess we're also, this  
5 is also, at least for me, this is all a little vague.  
6 Because the only SDA that came through ACRS was for a  
7 plant that already had a design cert, so it was pretty  
8 easy. So, we haven't seen one where we actually, all  
9 they come for is an SDA, and the whole review process  
10 is exercised, so this helps me a bit. I guess I see  
11 what you're doing.

12 I think the other side of what I was  
13 concerned about is kind of covered in the fact that  
14 either they accept things from the SDA directly, and  
15 I guess from what you said, we might see an FSAR with  
16 sections that's accepted by reference, or some such  
17 thing like we did for COLs on design certs. But any  
18 other issues can be resolved within the FSAR itself,  
19 that will have to be reviewed. So, you don't need  
20 something like I was suggesting, more general. Thank  
21 you very much.

22 MR. GALVIN: Just to be clear, also once  
23 the COL is approved, the SDA is subsumed. The  
24 proposal states the SDA is subsumed into the Col, so  
25 it's treated as a COL now, as if there was no SDA.

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1 So, all the requirements for the change process will  
2 apply to the whole COL. There's no special  
3 requirements like there is for design cert.

4 DR. BLEY: Okay, and if a second COL from  
5 another applicant comes in, they're kind of stuck with  
6 this whole process, or can they refer to the first one  
7 as we do under design certs?

8 MR. O'DRISCOLL: Sure, I mean that's  
9 already in the regs. There's various things you can  
10 reference in the Part 52 process, another COL is one  
11 of them.

12 DR. BLEY: Okay, fair enough.

13 MR. GALVIN: But not finality Jim, there's  
14 no finality. It would be a design cert, or a re-  
15 approach for the second COL.

16 MR. O'DRISCOLL: Yes, which you can  
17 reference, yeah. Does that help? Or maybe I added  
18 more confusion there.

19 DR. BLEY: Well, the two of you, you're  
20 adding different things. So, Amy, you say there's no  
21 finality. If somebody else had got a COL, and I'm  
22 coming in with another operating license referring to  
23 this SDA, I can refer to their license for --

24 MR. GALVIN: You can basically copy what  
25 they have done, and the staff, unless something has

1 changed, should rely on its previous findings.  
2 However, you don't have finality if you're referencing  
3 another COL.

4 DR. BLEY: Okay, so the staff can ask  
5 anything about that is what that means? If I come in  
6 with a second one, refer to the first one, copy their  
7 stuff, you still get a chance to say well, maybe there  
8 is a problem here, and ask things in the review, is  
9 what that's saying?

10 MR. GALVIN: From a legal perspective,  
11 there is no back fit protection for a combined license  
12 referencing an SDA that's referencing another COL.

13 DR. BLEY: Okay, I think I get it, thank  
14 you.

15 MEMBER REMPE: Thank you for the  
16 discussion on all this, it helps, because we are going  
17 to be seeing some of these things coming down the  
18 pipe.

19 CHAIRMAN BIER: Okay, any last questions,  
20 or comments? In that case we are now on break, and we  
21 will resume at 11:30 Eastern.

22 (Whereupon, the above-entitled matter went  
23 off the record at 11:17 a.m. and resumed at 11:30  
24 a.m.)

25 CHAIRMAN BIER: Okay, it looks like it is

1 now 11:30 Eastern. So, if staff is back, I think we  
2 can move on, and start with slide 12 of the  
3 presentation.

4 MR. O'DRISCOLL: All right, welcome back  
5 everybody. I'm continuing our discussion of topics  
6 from the last ACRS meeting we had back on the first.  
7 We're on slide 12. So, this is the issue of transfer  
8 of design certification information to other vendors.  
9 So, this issue came up during the last meeting during  
10 our discussion that proposed changes to the  
11 requirements for reporting emergency core cooling  
12 system analysis model errors.

13 Chairman Rempe noted that the situation  
14 where a design, once certified, and sponsored by one  
15 vendor is referenced by a combined license by another  
16 vendor who is not involved in the original  
17 certification. The chairman noted that in these  
18 situations, there is no straight forward process for  
19 transfer of detailed design, and analysis information  
20 of the ECCS, or any other system, including records of  
21 found errors, and analyses.

22 There would be some possibility of a  
23 previously discovered error to be carried forward by  
24 a new vendor, because the new vendor did not have the  
25 records. So, the staff responded back on the first

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1 that nothing in this proposed rule affects this  
2 situation. We're not relieving the vendor's  
3 responsibility to document changes, and maintain a  
4 complete internal record.

5 The regulations you see on the slide are  
6 examples of requirements for design vendors to  
7 evaluate errors, make reports, and maintain, or  
8 control documents related to quality. The NRC also  
9 has experience reviewing applications that reference  
10 a design supplied by a vendor other than the one that  
11 obtained the original design certification. The south  
12 Texas COL proceeding is an example of that.

13 Under 52 73A, the NRC required, and reviewed an  
14 alternate vendor report that evaluated in depth the  
15 qualification of the proposed alternate vendor. In  
16 general, the staff expects that if a design changes  
17 hands, necessary records would be transferred as well.  
18 However, the staff review will evaluate this. The  
19 staff acknowledges that there is much more information  
20 that must be used by the staff to reach its safety  
21 finding than the information that ends up in the rule.

22 The staff retains the right to obtain any  
23 design information it deems necessary to make a safety  
24 finding. Chairman Rempe also asked a question related  
25 about the current practice of small advanced reactor



1 vendors using DOE developed codes, and what that means  
2 for the staff's need to obtain that information to  
3 review the design. So, the DOE code development work  
4 is public, but not all of the information in it, or  
5 used to verify, or validate V&V, the codes, due to  
6 things like expert control, et cetera, is public.

7 The NRC has access to this information  
8 through various channels. Is there any questions on  
9 this before I go on?

10 MEMBER REMPE: So, this is Joy, and you  
11 have a lot of good information in your comments, and  
12 I'm not sure I digested all of it, or understand it  
13 all, but could you just give me a little idea more of  
14 what happened with the STPCOL review? You mentioned  
15 that the staff ensured that some documents were  
16 transferred, and can you tell me how the staff did  
17 that, and what requirements allowed them to do this?

18 MR. O'DRISCOLL: So, I think that's a good  
19 answer for somebody in DNRL if there's a staff member  
20 on the call that remembers exactly what they did. But  
21 basically I can just say that we reviewed that like  
22 any other COL application, and we expect to have the  
23 information needed for us to make a safety finding.  
24 And when it's not present in the application, based on  
25 an RAI that's quality written, and is backed up with

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1 the regulatory need, we send those out.

2 And then the applicant is on the hook,  
3 more or less, to provide that information to staff so  
4 the staff can make its finding. Kevin, you have  
5 raised your hand, take it over.

6 MR. ROACH: Yeah, Jim hi, this is Kevin  
7 Roach, attorney with NRC OGC. I just wanted to add a  
8 little bit more to what you were saying about the  
9 STPCOL review. The Commission addressed the alternate  
10 vendor review in the mandatory hearing decision that  
11 was issued in 2016. So, in 52 73A, there's a  
12 requirement that if there's going to be a vendor who  
13 was not the original design certification vendor, the  
14 NRC can require an alternate vendor report basically.

15 So, in the alternate vendor report that --  
16 Nina was the party in the south Texas proceeding. In  
17 the report they submitted, they went through all of  
18 the steps that they went through to ensure that  
19 Toshiba had access to documents, that it was capable  
20 of reproducing any calculations it was missing, and  
21 the staff did audits, and inspections of this.

22 And so I would commend to you the  
23 mandatory hearing decision for 2016, and give you the  
24 citation for that. It's a CLI16-02, and then SCR also  
25 goes through the steps of the alternate vendor

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1 qualification review. And I guess the bottom line is  
2 the NRC has experience in this area, and this process  
3 is the model I think that it would follow in the  
4 situation that you were asking about.

5 MEMBER REMPE: Okay, this helps. Again,  
6 it's just a concern I've had, because a lot of times  
7 when we see some of the new design developers coming  
8 in, and when the details aren't there, they often will  
9 say but we'll still be around, and I've often brought  
10 this up. But knowing that you expect them to  
11 reproduce the calculations, sometimes they take credit  
12 for procedures that we don't yet have, because it's  
13 not yet required. It's just going to be an  
14 interesting situation as we go forward, so thanks.

15 CHAIRMAN BIER: Anything else on this  
16 slide? Okay, thank you for the clarification.

17 MR. O'DRISCOLL: All right, we're on slide  
18 13, which is definition of essentially complete  
19 design. So, there was some discussion on aspects of  
20 what a quote essentially complete design, end quote,  
21 would mean. And these came up during our discussion  
22 on the design scope, and standardization technical  
23 area. The first question was from Chairman Rempe,  
24 where we asked if we considered adding a definition  
25 for an essentially complete conceptual design from the

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1 Part 50 construction permit process.

2 And how the staff should address carve  
3 outs where portions of the design are not provided for  
4 review. Chairman Rempe asked if carve outs counters  
5 the definition of essentially complete design. So,  
6 Member Sunseri, and Member Bley recommended that the  
7 proposed definition, essentially complete design,  
8 still leaves much to interpretation, and the scope of  
9 the information that meets the definition is  
10 unavoidably a function of the staff review of what is  
11 initially provided to them.

12 Member Kirchner commented that there seems  
13 to be a break point in Part 52, where the term  
14 essentially complete design seems to apply only to  
15 evolutionary light water reactor designs, and not  
16 designs with advanced inherent passive safety features.  
17 So, we brought all this stuff back to staff, and  
18 here's what you get. The staff disagrees that we  
19 should apply the concept of essentially complete  
20 design in any form to the Part 50 process.

21 As I said earlier, the objective of this  
22 rulemaking is not to make the Part 50, and t2  
23 processes the same, but to make it such that  
24 equivalent designs reviewed under each process yield  
25 similar outcomes with regards to safety, security, and

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1 environmental protection. Part 50 affords a more  
2 relaxed requirement for design information, maturity,  
3 and changes during construction at the construction  
4 permit stage at the cost of finality.

5 The staff acknowledges that in the  
6 preliminary draft propose rule, FRN, when  
7 characterizing a construction permit application, we  
8 use the phrase quote essentially complete conceptual  
9 design. This language is not as precise as it should  
10 be. Therefore the staff plans to modify the  
11 preliminary draft FRN to use the phrase quote  
12 preliminary design when describing construction permit  
13 applications, and accurately align with the language  
14 that is used in Part 50 right now.

15 Regarding construction permits, the level  
16 of detail must be sufficient for the staff to make its  
17 findings to 10 CFR 50 34A, and 50 35. These  
18 regulations for issuing a construction permit have not  
19 been substantially modified since 1970. These  
20 regulations recognize that at construction permit  
21 stage, the design is preliminary, and subject to  
22 future changes unlike for a design certification COL,  
23 or an operating license where final design information  
24 is required, and all safety issues must be resolved.

25 Guidance for meeting 50 34A, and 50 35 is

1 contained in NUREG 0800 standard review plan, and Reg  
2 Guide 1.70. And the staff is currently developing a  
3 construction permit interim staff guidance to  
4 supplement the SRP, and the reg guide. With regard to  
5 Member Kirchner's comment that there seems to be a  
6 technology break point built into Part 52 with respect  
7 to the requirement to submit essentially complete  
8 design for review, the staff looked into this, and  
9 notes that it is a good observation, however this was  
10 not the intent of the original Part 52 rulemaking.

11 Part 52 41, which is titled Scope of the  
12 Subpart has a paragraph B1, and B2. So, B1 says any  
13 person may seek a standard design certification for an  
14 essentially complete nuclear reactor -- sorry, nuclear  
15 power plant design -- which is an evolutionary change  
16 from light water reactor designs of plants which have  
17 been licensed in commercial operation since before  
18 April 18th, 1989.

19 And Paragraph two says any person may also  
20 seek a standard design certification for a nuclear  
21 power plant design which differs significantly from  
22 the light water reactor designs described in paragraph  
23 B1 of this section, or uses simplified, inherent  
24 passive, or other innovative means to accomplish its  
25 safety functions. So, we believe that this apparent

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1 distinction in technology in this regulation was not  
2 intended as it's written.

3 Specifically, we believe that the phrase  
4 in B1, quote, which is an evolutionary change from the  
5 light water reactor designs is not meant to qualify  
6 what part 52 applicants must submit designs that are  
7 essentially complete. So, why? So, the reason why is  
8 because if you look at 52 47, which is contents of  
9 applications, the purpose which is to describe the  
10 information needed for Part 52 license applications  
11 specifically does not make a distinction between these  
12 two classes of designs.

13 So, these are divided in paragraph C1 for  
14 evolutionary designs. Paragraph C2 for designs that  
15 differ significantly for light water reactor design  
16 described in paragraph C1, or uses simplified,  
17 inherent, passive, or other innovative means to  
18 accomplish its safety functions, or paragraph C3 for  
19 modular nuclear reactor designs. Of note is that the  
20 paragraph C1, and C2 both specifically require an  
21 essentially complete design.

22 So, therefore the staff plans to remove  
23 the term essentially complete from 10 CFR 52 41 B1.  
24 It's not in the rule right now, but we're going to  
25 make this change. And ensure essentially complete is

1 used consistently within 10 CFR 52.47 C1, C2, and C3.  
2 So, finally, even though the staff is proposing to  
3 define essentially complete as part of this  
4 rulemaking, in doing so, it does not intend to change  
5 the scope, or level of detail required for a design  
6 certification application, or the findings that the  
7 staff are required to make.

8 The staff encourages all applicants to  
9 engage early in pre-application if they need  
10 additional clarifications regarding scope, or level of  
11 detail of their particular application. So, are there  
12 any questions on this item?

13 DR. BLEY: Yeah, Dennis Bley, and Jim, you  
14 may have covered it, you were going really fast, and  
15 I was taking notes, so I might have missed it. I  
16 appreciated the comments the staff made at our last  
17 meeting, that essentially complete design changes with  
18 each phase of design licensing, and you explain that's  
19 why you were putting in the definition to clarify it.  
20 And I didn't think that definition made that point  
21 clear, which I think would help people, and I wondered  
22 if you'd thought about that, if that might be a good  
23 addition to the definition.

24 MR. O'DRISCOLL: Omid, do you want to  
25 reply to that one?



1 MR. TABATABAI: Yes, good morning Dr.  
2 Bley. We actually thought about what you mentioned  
3 last time, but again, if there are specific  
4 recommendations, or suggestions that you have in mind  
5 that you can provide, that would help the staff look  
6 at it, and consider adding it to the proposed  
7 definition for essentially complete design. What we  
8 have used, in order to come up with the proposed  
9 definition is using the SECY paper that the staff  
10 proposed.

11 I forgot the number, based on the  
12 experience from Vogtle construction, and issues that  
13 the licensees brought up, and the difficulty that the  
14 staff had to go through to review minor license  
15 amendments for minor issues, and things like that.  
16 And we wanted to provide a definition with a solid  
17 basis as to why the essentially complete design, what  
18 we envision as the staff to mean.

19 And we used some input from -- Malcolm is  
20 also on the line, and he can elaborate on that. We  
21 wanted to make sure that the definition would include  
22 safety significance, importance of safety significance  
23 in the definition to make sure that we are clear in  
24 the definition, what we mean by essentially complete  
25 design.

1 DR. BLEY: Yeah, Omid, and I think it was  
2 Malcolm who I'm paraphrasing, who made this point,  
3 that I thought was right on target. And the  
4 committee, and its consultants shouldn't be rewriting  
5 the rule for you, and giving you new words. But I  
6 liked the concept, and it's a real concept that the  
7 meaning has to change with each phase of design, and  
8 licensing.

9 And the definition you have is accurate,  
10 but leaves many things to the eye of the beholder.  
11 So, I thought this idea that was expressed by the  
12 staff was worth including. So, I see Malcolm's ready  
13 to say something, he may correct me here, okay.

14 CHAIRMAN BIER: Yeah, Malcolm?

15 MR. O'DRISCOLL: You're on mute Malcolm.

16 MR. PATTERSON: There's so many ones off  
17 these days. I appreciate your observation, it wasn't  
18 clear to me how to change the wording quickly, so I  
19 didn't try to do it before this meeting. The  
20 observation is not being ignored.

21 DR. BLEY: For me it seems pretty easy,  
22 but that's because I don't have to write it, and have  
23 everybody look at it.

24 CHAIRMAN BIER: Okay, Joy?

25 MEMBER REMPE: Sure, I'm glad Dennis said

1 it first, because I was trying to follow what you were  
2 saying also James, and I'm not as familiar with some  
3 of the terms. But on item two, I think that is the  
4 response back to my comment about a definition might  
5 also be thought of for an essentially complete  
6 conceptual design because of what we've seen with a  
7 prior construction permit.

8 And I think what your response is back to  
9 me is that the staff is going to get rid of that term,  
10 conceptual design, and go to preliminary design, is  
11 that what I think I heard you say?

12 MR. O'DRISCOLL: Right, so when we read  
13 the transcript, and sort of like the staff said this,  
14 and I'm like where did we say that? And we found that  
15 we did say that in the preliminary draft proposed rule  
16 in one of our responses to a public comment. And we'd  
17 like to change the phrase, because what we would like  
18 to do is kind of fence off the whole concept of  
19 essentially complete to Part 52. But that being said,  
20 I think we're taking about the same thing here.

21 This whole idea of graded -- what it means  
22 to be essentially complete changes, I think that's  
23 something that if we were to get that right, would  
24 ultimately address your concern, because what  
25 essentially is complete changes, which mean what we

1 would want at an early phase, rather than later. Does  
2 that make sense?

3 MEMBER REMPE: I think so. So, okay  
4 you're going to get rid of conceptual design, which is  
5 always, I remember when I worked, many years ago for  
6 a vendor, we used to laugh about what is a pre-  
7 conceptual design, and we had some interesting ideas  
8 about what it meant. But anyway, yeah, I think  
9 preliminary is better. But I think it also evolves  
10 with the same point Dennis is raising, as what's  
11 needed at that time in the regulation.

12 And I think also heard you say that a lot  
13 of this is going to be dealt with with the CP interim  
14 staff guidance, and other guidance that will be  
15 changed, like in NUREG 0800 in Reg Guide 1.7. And I  
16 have another question after that, but I just want to  
17 make sure I understood what you said, because I'm  
18 slow.

19 MR. O'DRISCOLL: Yeah, so there's -- we're  
20 working on an ISG for future Part 50.

21 MEMBER REMPE: Right, we reviewed that.

22 MR. O'DRISCOLL: Yeah, so I'm not sure if  
23 Carolyn Laron (phonetic) -- but I'm not sure quite  
24 what phase we are in that, but we are talking. I know  
25 Karen, and I are communicating.

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1           MEMBER REMPE: So, again, this is a good  
2 time to -- I'm not sure what all sections you're  
3 changing in the SRP, but I know we discussed, and I  
4 get what we're doing here, but this is a good time to  
5 again bring up the fact you've got a lot of  
6 rulemakings with a lot of changes to the guidance, and  
7 my understanding from last time is that although you,  
8 and your organization are tracking all these changes.

9           And again, maybe it's Section 19 in NUREG  
10 0800 that you're changing, different rulemaking  
11 activities are going to require different changes, and  
12 it'll all go up to the Commissioners, and they're  
13 going to have to try, and make decisions on a bunch of  
14 different changes to guidance for different rulemaking  
15 activities, and keep it straight, and hopefully not  
16 make a comment on one change that counters what's  
17 needed for another change.

18           It's going to be a complicated thing, and  
19 I understand why the staff is doing what they're  
20 doing, but that is what I heard last time, right?

21           MR. O'DRISCOLL: Yeah, and I think you're  
22 accurate there in your recollection, and description  
23 of it. I mean essentially we have to provide for the  
24 public's review, for the Commission's review, if it's  
25 needed to understand the rule, a preliminary draft reg

1 guide. And obviously the point of departure of that  
2 is what's actually out there right now, if it's a  
3 revised reg guide, as opposed to a new reg guide.

4 So, you're right, you could have multiple  
5 activities, multiple projects that need to change that  
6 reg guide. And again, this has happened before,  
7 because this is our process, it has not changed, and  
8 these things have to be deconflicted, and that's why  
9 you have a Division of Rulemaking, and all that good  
10 stuff, for us to fix that.

11 MEMBER REMPE: Now there's like what, at  
12 least four, five different rulemakings that are  
13 changing various reg guides at the same time, and I'm  
14 just wondering, do you know which reg guide, or SRP  
15 chapter is having the most impacts? Is there one reg  
16 guide that I could site that has four different  
17 rulemakings affecting it? That's what I'm kind of  
18 wondering.

19 MR. O'DRISCOLL: That's information that  
20 I don't have, but we could -- I think there's ways to  
21 figure it out. There's only a finite number of rules  
22 that are going on in finite areas of subject matter,  
23 and they may, or may not have declared what guidance  
24 is affected. So, it really depends on the phase of  
25 rulemaking. If you have a proposed rulemaking plan,

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1 for example, or even a reg base, is they'll just say  
2 guidance is affected, they may not know.

3 But then when you get into this phase,  
4 when you're actually writing the rule, and sitting  
5 down, things really start to crystalize. And so, it  
6 would really only be useful information comparing  
7 draft propose, and draft final rules, and what's in  
8 them right now, as far as cross cutting. And we have  
9 a decision of research that deals with this too. I'm  
10 not going to speak for them.

11 But they have a set of PMs, project  
12 managers, that work on -- they're assigned to a reg  
13 guide, and their job is also to deconflict all the  
14 various activities going on with that reg guide.

15 MEMBER REMPE: Okay, thank you.

16 CHAIRMAN BIER: Amy, you have your hand up  
17 to respond, is that correct?

18 PARTICIPANT: Yeah, just briefly, I want  
19 to make sure we're not conflating several concepts.  
20 Essentially complete is always intended to refer to  
21 the scope of the design, that it would include all  
22 systems, structures, and components that are pertinent  
23 to safety, and that level of -- that scope should not  
24 vary between a design cert, or a COL, or even a  
25 construction permit.

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1           The only place that it varies is the  
2           standard design approval, which does allow for  
3           approval of major portions of a design, rather than an  
4           essentially complete design. Then you have the  
5           concepts of preliminary, and final design information,  
6           and that speaks to the level of finality of the  
7           design, and whether it is subject to change as in  
8           preliminary design information at a construction  
9           permit stage is subject to change during construction.

10           And then you have the concept of level of  
11           detail, and the level of detail always needs to be  
12           appropriate to whatever findings the staff is needing  
13           to make. So, at the design cert, or COL stage you  
14           need to have enough final design information to make  
15           final safety conclusions on the entire design. And  
16           the level of detail within that varies between  
17           systems, structures, and components depending on the  
18           safety significance, the uniqueness, and the  
19           complexity of the topic.

20           So, it's very difficult to establish sort  
21           of a standard guidance for what the appropriate level  
22           of detail is across the board, and that's why it's  
23           handled in individual guidance documents. And with  
24           regards to all the different guidance documents, and  
25           the concern Dr. Rempe has about them changing, I'm not

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1 aware that this particular issue we're discussing now,  
2 that there's any intent on changing the concepts of  
3 finality, level of detail, or scope.

4 I believe this is clarifying words, and  
5 not actually changing the practice of what we're doing  
6 there.

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

8 CHAIRMAN BIER: That was extremely helpful  
9 Amy.

10 PARTICIPANT: Okay, thank you.

11 CHAIRMAN BIER: Walt, you had your hand up  
12 a moment ago?

13 MEMBER KIRCHNER: Yes, but I took it down,  
14 thank you Vicki.

15 CHAIRMAN BIER: All right, any other  
16 questions, or comments on this slide? Okay, then we  
17 can move on.

18 MR. O'DRISCOLL: All right, we're on slide  
19 14 for folks on the phone. Okay, so there was some  
20 discussion during the Part 50 and 52 change process  
21 discussion regarding proposed addition of the  
22 provisions, and we're going back to what we talked  
23 about earlier today in 50.59, to add 50.59 C2 nine,  
24 and ten.

25 So, the paragraphs would require licensees

1 of power plants that are licensed under Part 50 after  
2 the effective date of the final rule to seek an  
3 amendment to the operating license if a proposed  
4 change, test, or experiment would significantly  
5 increase the probability, or consequence of an ex-  
6 vessel severe accident. Chairman Rempe asked, well  
7 how would one know if a postulated accident is  
8 credible? That is, is there such a thing as a cut-off  
9 accident frequency below which such accidents need not  
10 be considered?

11 So, at the meeting, the staff stated that  
12 what would be credible versus incredible is not  
13 defined. And such a definition is the prerogative of  
14 the Commission to determine. We clarified at this  
15 last meeting that the new provisions would only  
16 require analysis on previously identified ex-vessel  
17 severe accidents, not newly defined ones. The staff  
18 agreed that the proposed changes don't resolve the  
19 ambiguity of the terms substantial, and credible.

20 But they do align the Part 50 change  
21 process to the current requirements of Part 52 in  
22 regards to the impact of changes, tests, and  
23 experiments on the probability, and consequences of a  
24 severe accident. So, I believe that there was  
25 agreement that the staff's ACRS discussion of this

1 concept of a cut-off frequency will continue, but  
2 would not be carried forward in this rulemaking.

3 There are some additional points the staff  
4 would like to make on this topic. So, the staff  
5 recognizes the term credible is used in slightly  
6 different contexts in various NRC regulations, and  
7 guidance documents, but is not defined. However, the  
8 staff is taking several actions to ensure that the  
9 expectations are clear, and predictable for defining  
10 accident sequences, including appropriate controls to  
11 prevent, and mitigate potential accident consequences,  
12 and taking probabilistic considerations into account  
13 as appropriate.

14 In most cases, the term credible is used  
15 to ensure that requirements are not imposed to protect  
16 against non-physical, or obviously very unlikely  
17 events, or phenomenon. The definition of the term,  
18 and possible demarcations of what may, or may not be  
19 deemed credible can differ based on how a specific  
20 design, and licensing methodology incorporates the  
21 concept.

22 As such, developing generic definitions of  
23 credible may not present the most technology inclusive  
24 approach, and could unintentionally limit the ability  
25 of applicants to propose reasonable alternatives --

1       excuse me, reasonable alternative methods for  
2       determining credible for their designs. The current  
3       regulations under 10 CFR Part 50, and Part 52 provide  
4       regulatory framework that if met ensure that there is  
5       adequate protection of public health, and safety,  
6       including appropriate defense, and depth.

7               The SRP provides guidance to establishing  
8       the plant transient in accidents for LWRs that should  
9       be analyzed to represent a sufficiently broad spectrum  
10      of transients, and accidents, or initiating events.  
11      As required by NEIMO, the Nuclear Energy Innovation  
12      and Modernization Act, the NRC is developing a  
13      technology inclusive, risk-informed, and performance  
14      based regulatory framework, which is Part 53, for any  
15      new reactor applicant.

16             As Part of this rulemaking activity, the  
17      NRC staff is developing flexible options for selecting  
18      licensing basis events. One approach for licensing  
19      basis event selection is described at NEI 1804, which  
20      is revision one, titled Risk-informed Performance  
21      Based Technology Inclusive Guidance for non-Light  
22      Water Reactor Licensing Basis Development. So, that  
23      was issued in August 2019, and the ADAMS number for  
24      that is ML19241A472.

25             The NRC endorsed that in Regulatory Guide

1 1.233, which is titled guidance for a technology  
2 inclusive, risk-informed, and performance based  
3 methodology to inform the licensing basis, and content  
4 of applications for license certifications and  
5 approvals for non-light water reactors, which was  
6 issued in June of 2020. And that reg guide is  
7 ML20091L698.

8 So, this approach uses probabilistic PRA  
9 in an enhanced role for the selection of licensing  
10 basis events. By following this approach, an  
11 applicant can establish the event sequences for which  
12 its proposed design must include prevention, and  
13 mitigation measures for. While the embedded  
14 methodology considers frequency, engineering judgment  
15 remains an important part of the process.

16 The methodology does not address credible,  
17 but instead includes determination of what sequences  
18 are specifically considered in the design, and  
19 programmatic controls, and those that contribute to  
20 the residual risk associated with the facility.  
21 Without using insights from a full scope PRA in a  
22 holistic fashion, it is more difficult, and can even  
23 be more subjective to define what constitutes credible  
24 for a given plan.

25 So in response to stakeholder feedback on

1 Part 53 rulemaking, and to afford applicants  
2 additional flexibility in defining, and evaluating  
3 licensing basis events without using PRA in an  
4 enhanced role, the staff is also developing two  
5 additional approaches. One of these approaches uses  
6 PRA in a traditional role that is intended to better  
7 align NRC requirements with the IAEA, which is the  
8 International Atomic Energy Agency, specific safety  
9 requirement number SSR2/1 titled Safety of Nuclear  
10 Power Plant Design.

11 This traditional approach includes  
12 defining design rules, and allowing the use of  
13 stylized events to establish a design basis for the  
14 associated structures, systems, and components. While  
15 not meant to include physically impossible events, and  
16 phenomenon, the traditional approach introduces  
17 intentional conservatisms to account for  
18 uncertainties, or limitations in testing, and analysis  
19 data in the term credible accidents that the applicant  
20 is required to analyze, and address in design.

21 The other option under development would  
22 provide an alternative approach to selecting licensing  
23 basis events by establishing a maximum credible, or  
24 hypothetical accident. All three approaches would  
25 provide acceptable means of identifying the spectrum

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1 of credible events to support the safety case. The  
2 staff continues to encourage prospective new reactor  
3 license applicants to engage the NRC staff as early as  
4 practical to discuss topics such as licensing basis  
5 event selection, and what approach they propose to  
6 identify credible accident scenarios for their design.  
7 Okay, so with that, what questions do you have?

8 DR. BLEY: This is Dennis Bley, not so  
9 much a question, if you'll forgive me, a little speech  
10 here. I've been arguing strongly against the phrase  
11 credible, or incredible for over 40 years. I kind of  
12 understand why lawyers and many commissioners like  
13 keeping the prerogative to define it themselves. On  
14 the other hand, naive, or not so naive optimism has,  
15 in a number of cases over our history, led to us  
16 observing things that are incredible, or defined as  
17 incredible happening.

18 The definition that one member of the  
19 staff talked about at our last meeting, that they're  
20 physically impossible, is certainly a reasonable  
21 definition of incredible, one that doesn't allow much  
22 flexibility, and has been used in one of the end  
23 processes. I'd much rather people have to prove why  
24 what they want to call incredible is extremely  
25 unlikely. So, I'll leave it at that.

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1 I think the rule is going to go the way  
2 you're going, but I'd like to get rid of this language  
3 everywhere.

4 CHAIRMAN BIER: Okay, Dave?

5 MEMBER PETTI: Okay, so I just wanted  
6 clarity on two things. I understand why you don't  
7 want to define credible, but have you checked that  
8 it's being used consistently, or at least not  
9 inconsistently across all the regulations? And then  
10 it sounds like you said a maximum hypothetical  
11 accident, and a maximum credible accident are the same  
12 things, is that true?

13 MR. O'DRISCOLL: So, I'll ask Boyce, do  
14 you want to respond?

15 MR. TRAVIS: Yeah, I think that there was  
16 -- conflating the two is incorrect Dave. A maximum  
17 hypothetical accident, and a maximum credible accident  
18 are different concepts, and there are certainly some  
19 subtleties associated with those differences that are  
20 beyond the scope of the discussion we're having here,  
21 and we're still in the early stages of exploring that  
22 in the rulemaking that's going on. So, those two  
23 things are different, and we're treating them  
24 differently.

25 MEMBER PETTI: Okay, and what about this,



1 do you know if it's being used consistently, the term  
2 credible? Or at least not inconsistently?

3 MR. TRAVIS: I am not the right person to  
4 speak to that. I would like to say yes, but someone  
5 with a broader rule knowledge, given the supplies in  
6 NMSS areas, NRR, et cetera would have to speak up  
7 here.

8 DR. BLEY: Dave, I'd like to weigh in just  
9 a little on that. One is it hasn't been used  
10 consistently over the last 30 years. It's been used  
11 differently in different situations. Maximum  
12 hypothetical, and maximum credible historically go  
13 back in my memory as maximum hypothetical was I can  
14 dream up anything, and credible was added in to kind  
15 of reign in that position.

16 And later people tried to be more precise  
17 by looking at how likely things were. But it would be  
18 nice if we're going to use that language anywhere,  
19 that it gets well defined.

20 CHAIRMAN BIER: Greg, you have a quick  
21 question, or comment? Greg Halnon. Greg, I think you  
22 might be on mute. Or maybe, he may have stepped away  
23 for a minute.

24 MEMBER HALNON: No, is that better?

25 CHAIRMAN BIER: That's much better, thank

1 you.

2 MEMBER HALNON: I'm sorry, I had to change  
3 microphones, I apologize. I've been a little  
4 confused, because I thought yesterday we heard that  
5 DG1389 was being revised to define an MHA, and that  
6 was going to be essentially the same thing as MCA,  
7 maximum credible accident. So, I guess I need to go  
8 back, and look at the transcripts from yesterday,  
9 maybe I heard wrong.

10 I also know that we're reviewing another  
11 applicant under Part 50 that looks like ten to the  
12 minus six is being used as a cut-off point as a  
13 probability. So, I'm not sure I agree with that, as  
14 it's not consistent, and I'm not sure that I  
15 understand the full breadth of the different uses even  
16 within the staff. So, maybe someone can address that,  
17 or maybe we can talk about that at another time.

18 CHAIRMAN BIER: Just to add on Greg, from  
19 yesterday's briefing, I heard two different versions  
20 from different staff. One saying more, or less what  
21 Dennis said, that the MHA is kind of can you even  
22 imagine it? And another staff person saying no,  
23 really they are both about the same. So, even within  
24 one briefing, we heard some inconsistent definitions.  
25 But Walt?

1                   MEMBER KIRCHNER: Yes, I thought Vicki  
2                   that yesterday, well it was Michelle Hart, if anyone  
3                   checks the transcript, it was Michelle. I thought she  
4                   did a good job at least based on past usage, making a  
5                   distinction between an MHA, and an MCA, or a credible  
6                   accident. Credible accidents, if I recall her words,  
7                   were more physics based. The maximum hypothetical  
8                   accident was to account for the unknowns, and such.

9                   And just said, despite the physics, just  
10                  assume that the core is on the floor so to speak, that  
11                  you've had substantial melt, and use that to deal with  
12                  the uncertainties, and put margins into the scenarios  
13                  such that you could ensure adequate protection, and  
14                  such. So, I thought that if we go back, and look at  
15                  the transcript from yesterday, I thought that Michelle  
16                  Hart did a very good job trying to make a distinction,  
17                  at least in terms of historical usage of the  
18                  terminology.

19                 CHAIRMAN BIER: Thank you. Any additional  
20                 questions, or comments? I see some hands up, but I  
21                 think they're left over probably.

22                 MR. O'DRISCOLL: Okay, I'll move on. So,  
23                 we're about to go into guidance, and I'm looking at  
24                 the time, and I just wanted to ask, I think we might  
25                 want to maybe pass it back to you guys to see if

1 there's a rethink here in what we want to cover in the  
2 next few minutes.

3 CHAIRMAN BIER: Yeah, I thought about  
4 this, and I think we don't need to have the individual  
5 slides briefed. Maybe we can just go one by one to  
6 see if members, or consultants have questions, or  
7 comments on a specific slide. So, there may be some  
8 documents that everybody says yeah, we saw that, we  
9 don't need to discuss it. Is that agreeable?

10 MR. O'DRISCOLL: That's a great plan,  
11 yeah.

12 CHAIRMAN BIER: Okay. So, I guess you can  
13 move onto your next slide, and anybody want to discuss  
14 details on Reg Guide 1.206? Okay, hearing none,  
15 1.187, next slide. Joy, I thought you had some  
16 questions that related to the issue of severe  
17 accidents here?

18 MEMBER REMPE: I didn't in my notes, so  
19 maybe they got addressed in the prior things. I had  
20 something on the next one, and that's why I unmuted,  
21 sorry if I confused you because of that.

22 CHAIRMAN BIER: Okay.

23 DR. BLEY: Vicki, going through these  
24 quickly makes sense, but this is up to you folks on  
25 the committee, if you intend to include something

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1 about the guidance in the letter, you probably need  
2 more detail than we're buzzing through here, otherwise  
3 I think it's a good brief.

4 CHAIRMAN BIER: That sounds fine. For  
5 sure we would need to refer to these things if we plan  
6 to discuss them. So, all right, 1.200 I guess is the  
7 next slide. So, Joy, if you want to start, and then  
8 I have something also.

9 MEMBER REMPE: Okay, well I actually also,  
10 maybe it's you, or maybe Vesna, but I thought that she  
11 would be wanting to speak up on this. But mine's  
12 pretty short, and I've already brought it up today.  
13 Again, I believe this is -- at least my notes indicate  
14 this is one example of a reg guide that talks about  
15 what is needed with respect to a PRA, like a level two  
16 for at the time of fuel loading.

17 And again, it was more than just security  
18 things that are being changed, and I just wanted to  
19 mention that.

20 CHAIRMAN BIER: Okay, Vesna, or anybody  
21 else have anything --

22 MEMBER DIMITRIJEVIC: Yeah, I checked this  
23 actually Joy, and basically it was they say as  
24 designed, as to be built, as to be operated. So,  
25 there is not really a real concern, it's not used

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1       there. However, I have a couple of questions. One of  
2       my questions is are you planning, that is the NUREG  
3       1.247, or something, I don't remember, but it's a  
4       draft guide, which is the PRA results for non-light  
5       water reactors. Are you planning to look through  
6       this guide?

7               MR. O'DRISCOLL: That's a DANU question,  
8       that seems like a Part 53 scope of area. Is your  
9       question do we plan to work together, to make sure the  
10      reg guide works for both rules? Or is it do we plan  
11      --

12             MEMBER DIMITRIJEVIC: Yeah, that's exactly  
13      my question, because you said that we discussed from  
14      the beginning, that it's open to non-light water  
15      reactors.

16             MR. O'DRISCOLL: Yeah, and the answer is  
17      yes. I think Marty is raising his hand, Marty please  
18      go ahead.

19             MR. STUTZKE: Yes, this is Marty Stutzke  
20      from NRR DANU, and the intent of Reg Guide 1.247 is to  
21      address its use for Part 50, 52, and 53 as well. I'll  
22      also note that Reg Guide 1.247 is expected to be  
23      issued for trial use in late March, or early April of  
24      this year.

25             MEMBER DIMITRIJEVIC: All right. I have

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1 another question, which I wasn't sure should I ask in  
2 1.206, or here. That one of the changes you're making  
3 is of when applicability of this 50.69, right? Of 10  
4 CFR 50.69?

5 MR. STUTZKE: Yes.

6 MEMBER DIMITRIJEVIC: All right. Most of  
7 the changes in your period related reg guides are  
8 related to the scope, is it applicable for this  
9 license, if they should collab, manufacturing license,  
10 so they're all scope related. The only actual change  
11 which will require some more details is that related  
12 to 50.69, so where is that change?

13 MR. O'DRISCOLL: So, we did talk about  
14 this at length with whether, or not we needed to make  
15 changes to Reg Guide 1.201 with regards to 50.69, and  
16 I do have some language on that. So, the guidance  
17 that's related to 50.69 that's out there now is a  
18 trial guide, it's not a final reg guide. So, can I  
19 just hold my thunder until I get to that slide, and  
20 maybe just read my notes on that, would that work?

21 MEMBER DIMITRIJEVIC: Yes, but also what  
22 I'm wondering what's happening, I want to define how  
23 the period, how it should be presented, did you  
24 consider changing that to include the 50.69  
25 requirements?

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1 MR. O'DRISCOLL: Well, I don't want to  
2 speak for Malcolm, but 50.69 is an optional  
3 regulation. In other words, you don't have to have  
4 50.69. So, it's up to an applicant to consider if  
5 they want to use that in their application, or not.  
6 And Reg Guide 1.206 is really what is the requirements  
7 for an applicant -- we want to focus on what actually  
8 the staff needs to see to make a safety finding with  
9 respect to a license.

10 So, again, I don't want to speak for  
11 Malcolm here, but I don't imagine that 50.69 would be  
12 impacting Reg Guide 1.206 as far as what's needed.  
13 Malcolm, please go ahead.

14 MR. PATTERSON: I think you're exactly  
15 right, Reg Guide 1.201 addresses what's necessary to  
16 use 50.69. We're not trying to address it in Reg  
17 Guide 1.200.

18 MEMBER DIMITRIJEVIC: Okay, but the Reg  
19 Guide 1.200. in the C-13. I think defines that  
20 acceptability of the PRA for risk-informed  
21 applications, and summary refers to the -- that will  
22 be addressed in separate guidance for the risk-  
23 informed applications, 1174, 1175, the reg guides  
24 which are related to specific risk-informed  
25 applications. However, the reg guide which is missing

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1 in the numbering which was for graded QA was replaced  
2 by 10 CFR 50.69.

3 So, that's what I was thinking, that some  
4 -- okay, maybe this is voluntary changes that -- well,  
5 all risk-informed applications are voluntary. So, I  
6 was thinking since it's not in the reg guide, which is  
7 guidance for the graded QA, which is replaced with 10  
8 CFR 50.69, that that should maybe be addressed. I  
9 mean I didn't really have time to think in detail  
10 about that, but I was checking your guides for this.

11 MR. PATTERSON: Yes, I think that we will  
12 be touching on Reg Guide 1.201 later in this  
13 presentation. I think that's where it belongs. I  
14 mean I think that reg guide addresses the concern. It  
15 may need revision to do it well.

16 CHAIRMAN BIER: Okay, Jim, if you wanted  
17 to check your notes on 1.206, that's actually in the  
18 past, not in the future, we've already blown past that  
19 slide. So, I don't know if you want to go back to  
20 that, or --

21 MR. O'DRISCOLL: Well, I can talk about --  
22 I have a backup slide on 1.201 if we want to jump to  
23 that.

24 CHAIRMAN BIER: Up to you, however you  
25 want to address the question is fine.

1 MR. O'DRISCOLL: So, let's talk about  
2 this, just give me a second. All right, so this is  
3 slide 36, I'm jumping for those folks on the phone.  
4 So, let me just kind of go through this. So, 10 CFR  
5 50.69 was issued in 2004 after years of discussion.  
6 The Nuclear Energy Institute instituted industry  
7 guidelines revision zero of NEI 00-04, and published  
8 that in 2005. The next year NRC issued regulatory  
9 guide 1.201 for trial use. For many years it just was  
10 there, nobody used it.

11 The first license amendment request to  
12 implement the voluntary regulation was not submitted  
13 until Vogtle one, and two in 2014. In 2015, the staff  
14 prepared a summary of issues related to Reg Guide  
15 1.201, issues to be addressed in the next revision.  
16 From the middle of 2017 through the end of 2021, we  
17 have received nearly 30 licensed amendment requests to  
18 use 50.69, and granted about 20 of them.

19 We are not waiting for the industry to  
20 revise their guidance, but until the staff has  
21 experience with the implementation of the rule, it  
22 seems prudent to defer putting Reg Guide 1.201 into  
23 its final form. It's not clear how the rule can be  
24 used by a plant that has not yet been built, but  
25 applicants for a construction permit, design approval,

1 combined license, or manufacturing license are already  
2 allowed to use 50.69.

3 This won't change when DC applicants, and  
4 COL holders are also allowed to risk inform their SSC  
5 categorization. The rule requires a PRA that has been  
6 peer reviewed against standards that the NRC has  
7 endorsed. In some ways, this is a higher standard  
8 than that which is required for a combined license  
9 holder to load fuel. The staff is working to update  
10 the summary of issues, but believes that the alignment  
11 rulemaking, this rulemaking, is independent of the  
12 technical issues of risk informing categorization of  
13 structures, systems, and components. So, any  
14 questions?

15 CHAIRMAN BIER: Vesna, was that helpful?  
16 Or other people who have questions on this?

17 MEMBER DIMITRIJEVIC: Yeah, it's helpful,  
18 I have to think about this.

19 CHAIRMAN BIER: If we can go back to the  
20 slide that we were at on 1.200?

21 MR. O'DRISCOLL: Sorry, 1.200?

22 CHAIRMAN BIER: Yeah, it's a little bit  
23 further down than where you are. There we go. I had  
24 one minor comment, I don't think it requires a  
25 response, just an observation that the draft reg guide

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1 does include language that might not be applicable to  
2 all reactors, such as large early release frequency.  
3 If you have a micro reactor with a tiny source, there  
4 may not really be such a thing as a large release.  
5 So, that's just an observation.

6 Any other questions, or comments on this  
7 document? Okay, so I think we can move on to 4.7 is  
8 next.

9 MEMBER REMPE: So, this is Joy, and it's  
10 a minor comment. It may be again, if the staff isn't  
11 getting confused, I get confused about all the  
12 changes, but in fact I think I made this comment when  
13 we looked at Reg Guide 4.7. But again, I see the IAEA  
14 standard for volcanic hazards being mentioned, and yet  
15 the staff has -- and maybe it's that that reg guide  
16 hasn't been finalized, but the staff is doing work on  
17 a reg guide related to volcanic hazards, and why  
18 wasn't it included? This is irrelevant with respect  
19 to this alignment issue, but I just was curious.

20 MR. O'DRISCOLL: If there's anybody on the  
21 line from the NRC staff that would like to comment on  
22 that?

23 MEMBER REMPE: It's not a terribly  
24 important comment, but I just was curious.

25 MR. O'DRISCOLL: Well we're here.

1                   MEMBER REMPE:   It's just something to  
2                   think about, and maybe it's a timing issue, and you  
3                   can get back to Quynh on it, and say yeah, it's a  
4                   timing issue, that other reg guide's not done yet.  
5                   But it's not particular to this rulemaking, but I  
6                   thought it was already a done deal, and I was curious.

7                   CHAIRMAN BIER:   One other point that I  
8                   had, and I don't know who would be the most  
9                   knowledgeable to address this, it looks like under the  
10                  population subheading within this reg guide, I forget  
11                  what the subsection number is, the requirements for  
12                  remote siting, or low population areas seem to have  
13                  been relaxed somewhat, and I just want to understand,  
14                  is there a specific reason for that? Is that because  
15                  it's too hard to anticipate future population, or what  
16                  the thinking is?

17                  MR. O'DRISCOLL:   So, it looks like  
18                  Jonathan Fiske from staff is not in the call, but that  
19                  change does relate to an item in our rule, and  
20                  responds to -- has to deal with specific impediments  
21                  to emergency plans. So, that's where that item comes  
22                  from.

23                  CHAIRMAN BIER:   All right, I guess I can  
24                  look into it a little more on my own, or maybe that's  
25                  something that you want to address in full committee

1 very briefly, up to you. Anything else on 4.7? Sorry,  
2 I cut you off.

3 MR. O'DRISCOLL: No, I'm good.

4 CHAIRMAN BIER: Okay, SRP 19. So, I have  
5 one, or two observations, anybody else have anything  
6 on this one that they want to raise?

7 MEMBER REMPE: I do. Again, maybe  
8 sometimes this is a thing where the staff had no  
9 additional comments, but during our meeting, I  
10 mentioned the commissioners, the reference in this  
11 chapter about the commissioner's expectation of a  
12 reduction in risk in new applications in the operating  
13 fleet. And I thought the staff responded back saying  
14 yeah, some changes should probably be made to that  
15 original version.

16 And I didn't see any changes in the  
17 version that has been released, and I just was curious  
18 where the staff is on that. Are they just going to  
19 let it go, or are they going to make some changes?

20 MR. O'DRISCOLL: So, Malcolm, are you on  
21 the line, do you want to respond to this one?

22 MR. PATTERSON: Yes, we did not try to fix  
23 that problem in this revision. Sorry, this is Malcolm  
24 Patterson.

25 MEMBER REMPE: So again, I'm thinking

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1 about where we're going in the future, and we might  
2 say that we understand that some things will be  
3 changed in the future, and as staff makes those final  
4 changes, they might consider, and give you a bulleted  
5 list of items, and I don't think I'm hearing any push  
6 back on that, that we agree, that yeah, that probably  
7 could be better worded.

8 CHAIRMAN BIER: Okay, I have a couple of  
9 items. One is again, there is some language in here  
10 that is specific to PWR, and BWR, and I understand why  
11 it's there. I wouldn't push to take it out, but I  
12 think this just points out some of the issues  
13 regarding designs for which we have less experience.  
14 Where maybe 20 years from now, there will be specific  
15 wording about issues that show up on a specific  
16 design, and we just don't know about them yet to put  
17 them in here.

18 So, that's just a future uncertainty I  
19 guess. The other thing, with regard to ITAAC, which  
20 I now understand better, and where somebody said that  
21 ITAAC would be subject to a risk-informed  
22 prioritization for which of the many zillions of items  
23 are going to get checked, and would the adequacy of  
24 the PRA typically be considered a high risk priority  
25 item, or not necessarily?

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1 MR. O'DRISCOLL: Malcolm, do you know, is  
2 PRA related ITAAC high on the list, do you know off  
3 hand?

4 MR. PATTERSON: Malcolm Patterson here.  
5 The reason 50.69 did not allow DC applicants, and COL  
6 holders to use that rule was because of concerns  
7 related to the effect of using PRA at a point where it  
8 could interfere with ITAAC. That's as close as I can  
9 think of the two ideas coming into conflict. That's  
10 all I have to contribute, sorry.

11 CHAIRMAN BIER: Okay, thank you. Any  
12 other questions, comments, or responses on SRP 19?  
13 Okay, moving on, next slide is 19.1. Anybody with --

14 MEMBER REMPE: So, this is another  
15 example, and I actually went back, and looked at the  
16 reg guide, where there are statements again about  
17 prior to fuel loading, or at the time of fuel loading  
18 again, that would -- things that may need to be  
19 changed. There's several places I found this, and I  
20 did searches, and so I'm just mentioning that.

21 CHAIRMAN BIER: Thank you. Anything else  
22 needed for clarification, or discussion on 19.1? Okay,  
23 13.3 I guess.

24 MEMBER HALNON: I think the only question  
25 here was relative to the 50.160 rule that's up to the



1 Commission, and whether, or not there was a  
2 synchronization with what you're expecting in your  
3 changes, and use of 50.160. I think that was really  
4 the question, or at least the yearning question. So,  
5 is there a synchronization there? I guess for  
6 example, if a site came in with, or a design came in  
7 with an EPZ within the site boundary, that in 50.160  
8 at this point excludes a FEMA review. Would this FEMA  
9 review still be done at the siting portion?

10 MR. O'DRISCOLL: So, I believe what we're  
11 doing, and again, Jonathan Fiske is not on the line,  
12 but what we're doing here is not to conflict with  
13 what's going on in that place. So, it comes back to  
14 significant impediments to emergency plan, population  
15 studies, and those related changes. And I believe we  
16 have what we're doing in that other realm in mind, for  
17 these changes to be harmonized together.

18 MEMBER HALNON: Yeah, that was my sense,  
19 is that this review for the siting would be  
20 independent of the emergency planning plan review,  
21 which is downstream, and I think that's what the  
22 change was supposed to clarify, is that correct?

23 MR. O'DRISCOLL: Yes, so I'm going to have  
24 to get back to you on that one. I can't give you a  
25 definite answer until --

1 MEMBER HALNON: Okay, that's the way I  
2 read it, so if it's not that, then we can get back to  
3 this in the full committee, but if that's the way it  
4 is then we're good then.

5 MR. FISKE: Jim?

6 MR. O'DRISCOLL: Hey Jon, how's it going?

7 MR. FISKE: Yeah, hey, I'm incredibly  
8 apologetic that I wasn't here. I've been actually  
9 dealing with some personal issues where I'm  
10 intermittently working, and I was on to check for  
11 emails, and --

12 MR. O'DRISCOLL: Thanks for joining us.  
13 So, real quick, we just had a couple of questions  
14 about SRP 13.3, and Reg Guide 4.7, and can we just do  
15 a re-ask here for Jon?

16 CHAIRMAN BIER: Greg, do you want to frame  
17 yours again? Yeah.

18 MEMBER HALNON: Yeah, on 13.3, I was just  
19 clarifying, making sure that the FEMA review for the  
20 significant impediments, that's independent of the  
21 FEMA review for the E plan and off-site plan reviews,  
22 is that correct?

23 MR. FISKE: That is correct. The changes  
24 that we're proposing in the guidance are more just to  
25 define the considerations for siting. Because we're

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1 kind of trying to be forward looking for SMRs that  
2 potentially have a site boundary EPZ coming online,  
3 and stuff. And the way the current regs, and guidance  
4 are written is we just discuss a siting analysis for  
5 the site in the vicinity without really defining the  
6 term vicinity specifically.

7 But because all the previous reactors that  
8 we've licensed have a ten mile EPZ, that's kind of  
9 just assumed where the siting analysis would be  
10 conducted. The FEMA review at that stage, if someone  
11 comes in for an ESP, and they're just looking for the  
12 site, if the licensee were to identify significant  
13 impediments, and then propose mitigative plans, we  
14 would consult with FEMA on whether those plans are  
15 reasonable, and effective.

16 And still eventually, when they go for  
17 their full emergency plan approval, there'd be a full  
18 consultation with FEMA for all the off site impacts,  
19 and obligations. So, this isn't changing anything  
20 about FEMA review per se, it's just providing  
21 additional guidance for people who are doing siting.

22 MEMBER HALNON: Okay, and that's the way  
23 I read it as well, thank you for clarifying.

24 CHAIRMAN BIER: Great. And Jim, if you  
25 wanted to go back to slide 19 on Reg Guide 4.7 now

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1 that we have Jon with us? There we go. Do you have  
2 in your notes which point you had wanted him to  
3 address Jim? Was that on the remote population siting?

4 MR. O'DRISCOLL: Yeah, I think a member of  
5 the ACRS just mentioned about there was some changes  
6 to the population studies I believe.

7 CHAIRMAN BIER: That was me, so let me  
8 just re-ask my question now that Jon is here. It  
9 looks Jon, like the little short paragraph, or section  
10 on population in 4.7 has been kind of weakened to no  
11 longer require sort of remote siting in a non-  
12 populated area. Is that too generalized to the kind  
13 of situation where there's no anticipated consequences  
14 beyond the site boundary? And if so, do we need to  
15 keep a remote siting requirement for plants that have  
16 a larger EPZ?

17 MR. FISKE: Honestly, I'm not comfortable  
18 really speaking to this. I didn't work directly on  
19 this item, or draft the new guidance.

20 CHAIRMAN BIER: Okay, that's fine. I see  
21 Amy has her hand up.

22 MS. CUBBAGE: Yes, are you speaking to the  
23 population density issue?

24 CHAIRMAN BIER: Yes. Yes.

25 MS. CUBBAGE: Before the Commission,

1 there's a SECY paper -- I don't have the number.  
2 There's a SECY paper before the Commission  
3 contemplating changes to the population density  
4 requirements. Should the Commission approve the  
5 staff's recommendation, then there would be a change  
6 to Reg Guide 4.7 to implement that, but that's nothing  
7 to do with the current rulemaking.

8 CHAIRMAN BIER: It doesn't have to do with  
9 the alignment issue?

10 PARTICIPANT: Exactly.

11 CHAIRMAN BIER: Okay, perfect, thank you.  
12 So, I guess we are back on wherever we were at slide  
13 22, which is kind of the last document slide. Any  
14 further questions, or comments on this? Okay, so in  
15 that case, Jim, I think you can go to quickly  
16 summarize your future directions.

17 MR. O'DRISCOLL: Great, okay, so this  
18 shouldn't take long. So, I just want to recap, and do  
19 the next steps. So, we've completed our presentation,  
20 and we've hopefully answered your questions. So,  
21 we're on slide 24 briefly recapping. The staff will  
22 complete the concurrence on the proposed rule, which  
23 right now it's actually just completed office level  
24 concurrence. After concurrence we will submit the  
25 proposed rule to the Commission for vote.

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1           The staff will hold additional stakeholder  
2 meetings during the proposed rule phase. The staff  
3 will consider your feedback from this meeting, and I  
4 think we got the major comments, so I don't think I  
5 need to go through them, because I didn't write them  
6 down, but we have it.

7           CHAIRMAN BIER:       It'll be in the  
8 transcript.

9           MR. O'DRISCOLL:       It'll be in the  
10 transcript. And then here's the rulemaking schedule.  
11 So, slide 25, we're planning to submit the proposed  
12 rule to the Commission by May. We expect the final  
13 rule to be issued in the fourth quarter of calendar  
14 year 2024, and that's really it. There's my contact  
15 information, and also Omid's contact information if  
16 you need to get a hold of us. And then again, if you  
17 need to look -- this is for members of the public.

18           If the public wants to look at this rule,  
19 you can look at regulations.gov, you look up docket ID  
20 NRC-2009-0196, and then it'll come up with a lot of  
21 the public meetings we had, and the reg basis, all  
22 that good stuff is there, and that's all I have.

23           CHAIRMAN BIER: Okay. So, Quynh, I guess  
24 at this point is the appropriate time to open up for  
25 any public comments or statements.

1 MR. NGUYEN: Yes.

2 CHAIRMAN BIER: And I guess people on  
3 Teams can raise their hand, and anybody who is on the  
4 phone has to press star six I believe to unmute, is  
5 that correct?

6 MR. NGUYEN: Correct.

7 CHAIRMAN BIER: Okay. We'll wait a  
8 minute, or so to see if anybody is trying to unmute.  
9 Okay, hearing no public comments, anybody on the  
10 committee, or consultants have last comments they want  
11 to share, questions they want to make sure are  
12 addressed in full committee, any summaries?

13 MEMBER REMPE: Vicki, this is Joy. I just  
14 wanted to thank the staff again for not only  
15 accommodating an earlier meeting, but also working to  
16 get these reg guides, and the guidance documents  
17 released, because it really helps to understand the  
18 whole package, and for the patience, and understanding  
19 in addressing our questions.

20 CHAIRMAN BIER: I agree with that. Quynh,  
21 you have any comments or advice?

22 MR. NGUYEN: Yes, I guess the first thing  
23 is since the full committee will be 1.5 hours with  
24 discussion, if there's any points of emphasis that  
25 you'd like Jim, and the staff to know. And I also

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1 have a clarifying point thanks to Chandu. In regard  
2 to an earlier statement about the severe accident,  
3 it's Appendix D Section VIII.B.5.C, I just want that  
4 on the transcript.

5 CHAIRMAN BIER: Okay, and will you also,  
6 or have you sent that out by email, so we don't have  
7 to write it down?

8 MR. NGUYEN: I will.

9 CHAIRMAN BIER: Okay, thank you. Omid?

10 MR. TABATABAI: Yes, thank you Chairman  
11 Bier. I just wanted to get back to a question that Dr.  
12 Rempe asked earlier during the presentation, we didn't  
13 have the answer for that. I checked with the staff,  
14 the question was related to what chapters of the SRP  
15 the staff's construction permit ISG would impact? So,  
16 I asked that question from our contact who is the lead  
17 for ISG, and their response is that chapters 2, 3, 7,  
18 8, 11, 13, and 15 basically are referenced in the ISG.

19 But the important point that she wanted me  
20 to convey is that the ISG supplements, and clarifies  
21 the guidance in the NUREG 0800, or the SRP. So,  
22 that's -- I just wanted to make sure I pass the  
23 information on to you. Thank you.

24 CHAIRMAN BIER: Okay, thank you for --

25 MEMBER REMPE: You can speak faster than



1 I can type. Chapters 2, 3, 7, 8, 11, and 13?

2 MR. TABATABAI: And 15.

3 MEMBER REMPE: And 15, thank you.

4 MR. TABATABAI: You're welcome.

5 CHAIRMAN BIER: Okay, and Quynh, we will  
6 definitely get back to you with regard to areas of  
7 emphasis. And I know this is all coming up pretty  
8 quickly, is there a time line by which you need that?

9 MR. NGUYEN: I'll defer that to Jim.

10 MR. O'DRISCOLL: So, we'd like to be  
11 prepared for the meeting on the first. So, obviously,  
12 right now we're trying to work on the rule, but if you  
13 can give us a little bit of time -- we don't have to  
14 worry about releasing anymore documents, so I think  
15 that was the biggest issue last time. So, I think --

16 CHAIRMAN BIER: Okay. My guess is, given  
17 it's already Friday and I think Monday is a holiday  
18 for some people, my guess is that getting you input by  
19 Monday would be difficult, but maybe by Tuesday, or  
20 Wednesday next week, is that fine?

21 MR. O'DRISCOLL: Yeah, that's great.

22 CHAIRMAN BIER: And again, hopefully it's  
23 not new preparation, but just of the existing  
24 materials, what would we want you to emphasize during  
25 full committee.

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1 MR. O'DRISCOLL: Okay.

2 CHAIRMAN BIER: All right, any last  
3 comments, or questions, concerns? Joy, you have your  
4 hand.

5 MEMBER REMPE: So, I'm helping out as my  
6 role as chair, and the fact that you're a new member,  
7 and maybe I'm over stepping my bounds, and tell me  
8 don't do that Joy. But anyway, I think it would be  
9 helpful for you to ask the members who were present  
10 today to send you their thoughts about what should be  
11 in the draft letter, so that it'll make the letter  
12 writing go easier in full committee.

13 CHAIRMAN BIER: Sure.

14 MEMBER REMPE: And those kinds of things,  
15 because that's something that we often do, and I think  
16 this will make the process smoother.

17 CHAIRMAN BIER: Well, and also in addition  
18 to that, I will send an email requesting this, but in  
19 addition to that, I would also say of course any  
20 topics that you would like emphasized in the full  
21 committee briefing. So, Scott?

22 MR. MOORE: Yes, just in closing, I'd like  
23 to thank all of the ACRS staff, and second Chairman  
24 Rempe's comments for all of the work that the staff  
25 put in this week. So, thanks.

1 CHAIRMAN BIER: And NRC staff, in addition  
2 to ACRS staff, I realize it takes a lot of patience to  
3 go through all these detailed questions. Okay, with  
4 that, if there are no further questions or comments,  
5 I think we are adjourned. Thank you all.

6 (Whereupon, the above-entitled matter went  
7 off the record at 12:48 p.m.)  
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# **ACRS Subcommittee Briefing:**

## **Content of Proposed Rulemaking to Align Licensing Processes and Incorporate Lessons Learned from New Reactor Licensing**

February 18, 2022

# OPENING REMARKS

**Vicki Bier – Subcommittee Chairman**

**Brian Smith – Director, Division of  
New and Renewed Licenses, Office  
of Nuclear Reactor Regulation**

# Today's Meeting

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- Provide an update on the effort since the last ACRS meeting on this rulemaking (meeting slides and materials: ADAMS Accession No. ML22020A000)
- Address in more depth ACRS members' questions and comments provided during the last meeting
- Discuss specifics of proposed changes to guidance documents that support the draft proposed rule
- Provide an update on next steps and the rulemaking schedule
- Receive ACRS members' perspectives

# NRC STAFF PRESENTATION

# NRC Staff Presenters



Jim O'Driscoll,  
NMSS  
Rulemaking Project  
Manager



Omid Tabatabai,  
NRR  
Senior Project  
Manager



# Topics for Further Discussion

---

- Entry conditions for part 50/52/53/53-T
- Cumulative effects of changes on the design when the plant is built
- Physical security of mobile reactors/assembled reactor cores shipped to a facility
- Flexibility for changes related to digital I&C
- Transfer of DC information to other vendors (NRC's role)
- Definition of “essentially complete design”
- Cutoff accident frequency for “credible” accidents

# Entry Conditions for Licensing Processes

---

- There are no planned entry conditions for Part 50 or Part 52 (open to all technology)
- Part 53 will meet the provisions of NEIMA and provide risk-informed licensing pathways to applicants
- In addition, Part 53 will be technology inclusive

# Cumulative Effects of Changes During Construction

---

- Part 50 and Part 52 remain distinct processes
- Part 52 is based on:
  - Essentially complete nuclear plant design
  - Final design information
  - Resolution of all safety issues
  - Finality for resolutions in subsequent proceedings

- The proposed changes in this rule do not affect this issue
- Mobile reactors are not being considered in rulemaking
- Requirements would be triggered by arrival of the fueled reactor
- Before arrival, access is controlled as it is currently for reactor construction sites

# Review of Changes Related to Digital I&C

---

- Endorsement of NEI-96-07 Appendix D unaffected
- RG 1.187 unaffected
- Current interim staff guidance unaffected
- No changes to 10 CFR 50.55a(h) in this rulemaking

# Review of Changes Related to Digital I&C (cont'd)

---

- Staff will ask for the level of detail necessary to meet a safety finding
- Design acceptance criteria is not needed
- Proposed change process for standard design approvals would use current methods

# Transfer of DC Information to Other Vendors

---

- The proposed rule does not affect the responsibilities of vendors in this area
- Existing regulations and reviews ensure design errors are evaluated and reported, vendor qualifications are considered
  - E.g., 10 CFR 50.46(a)(3)(i) through (iii), Appendix B to Part 50, Part 21
  - E.g., STP COL review considered alternate vendor qualifications

# Definition of “Essentially Complete Design”

---

- “Essentially complete” is a unique term to Part 52 DCs
- CP level of detail must be sufficient to make 10 CFR 50.34(a) and 50.35 findings
  - NUREG-0800
  - RG 1.70
  - CP Interim Staff Guidance
- No intentional distinction between “evolutionary” and “differs significantly” designs within 10 CFR 52.41



# Cutoff Accident Frequency for “Credible” Accidents

---

- A discrete cutoff accident frequency for credible accidents is not defined
- The changes to 10 CFR 50.59(c) would align the Part 50 change process with Part 52, with regard to consideration of severe accidents
- This rulemaking does not further define “credible” or what is “substantial”

# Proposed Updates to Guidance Documents

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- RG 1.206 (Applications)
- RG 1.187 (Changes, Tests, and Experiments)
- RG 1.200 (Acceptability of PRA Results)
- RG 4.7 (Site Suitability Criteria)
- SRP 19.0 (PRA and Severe Accident Evaluation)
- SRP 19.1 (Technical Adequacy of PRA Results)
- SRP 13.3 (Emergency Planning)

# RG 1.206 (Applications)

---

- Purpose: Unchanged—provide guidance on the format and content of applications for Part 52 nuclear power plants
- Rulemaking items driving changes:
  - PRA
  - Design scope and standardization
  - Contents of applications
  - Physical security
  - Change process

# RG 1.187 (Changes, Tests, and Experiments)

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- Purpose: Unchanged—provide an acceptable method for use in complying with regulations related to changes, tests, and experiments
- Rulemaking item driving changes:
  - Severe accident treatment requirements; new criteria 10 CFR 50.59(c)(2)(ix) and (x).
- Guidance applies to future Part 50 licensees

# **RG 1.200 (Acceptability of PRA Results)**

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- Purpose: Unchanged—provide an acceptable method to determine if a PRA is adequate to support an application
- Rulemaking item driving changes:
  - Use of PRA in design
    - Expands applicability to Part 50
- Guidance applies to future Part 50 applicants

## **RG 4.7 (Site Suitability Criteria)**

---

- Purpose: Describe the major site characteristics related to public health and safety and environmental issues that NRC considers in determining the suitability of sites for light-water-cooled nuclear power stations
- Rulemaking item driving changes:
  - Significant impediments to development of emergency plans
- Changes address siting criteria for ESP reviews conducted under 10 CFR 52.17(b)(1)

# SRP 19.0 (PRA and Severe Accident Evaluation)

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- Purpose:
  - Guides NRC staff review of PRA for a DC, ML, COL, CP, and OL application
  - Guide staff in deterministic evaluation of severe accident design features
- Rulemaking items driving changes:
  - Severe accident treatment requirements
  - Use of PRA in design
- Guidance applies to future new reactor licensing reviews under Part 50

# SRP 19.1 (Technical Adequacy of PRA Results)

---

- Purpose: Guides NRC staff review of the technical adequacy of PRA used to support a DC, ML, COL, CP, and OL application
- Rulemaking items driving changes:
  - Severe accident treatment requirements
  - Use of PRA in design
- Guidance applies to future new reactor licensing reviews under Part 50



## **SRP 13.3 (Emergency Planning)**

---

- Purpose: Guides NRC staff review of the applicant's emergency planning, as described in the safety analysis report associated with the CP, OL, or COL application
- Rulemaking items driving changes:
  - Significant impediments to development of emergency plans
  - Three Mile Island requirements
- Changes provide additional guidance on conducting a siting analysis and update references

# Questions

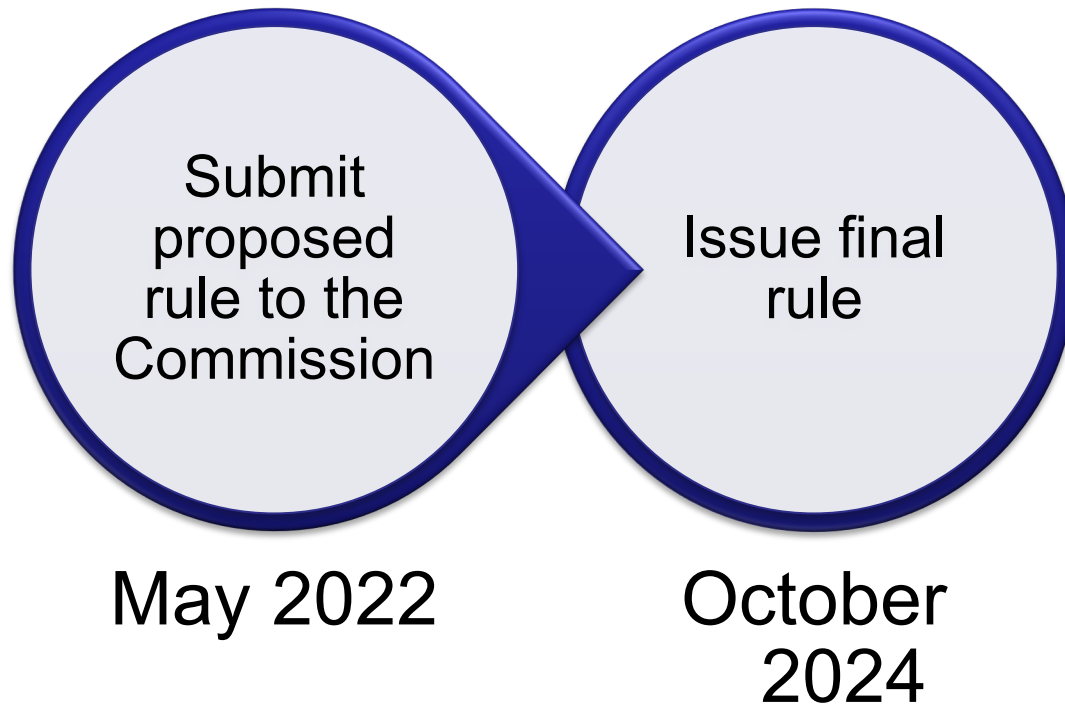


# Recap and Next Steps

---

- Complete concurrence on draft proposed rule
- Submit the proposed rule to the Commission
- Plan for additional public meeting(s) during the proposed rule phase

# Rulemaking Schedule



# Contact Information



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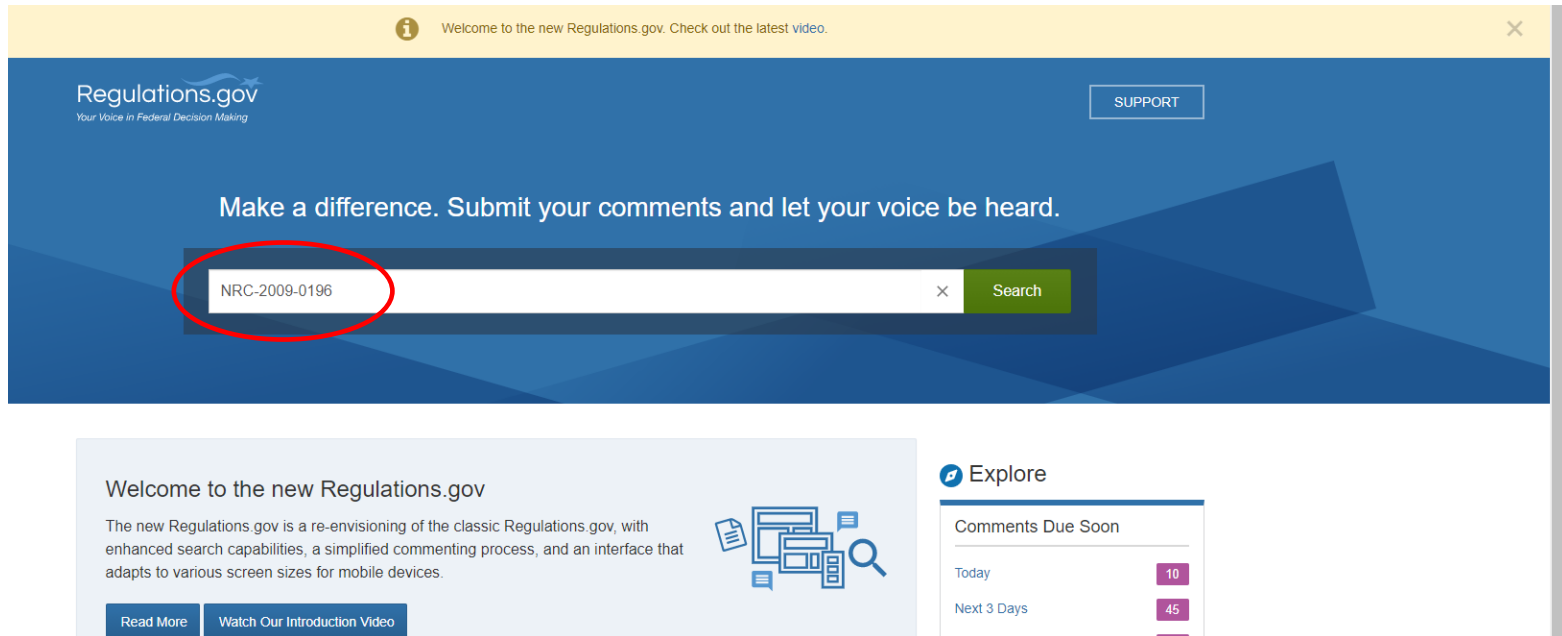
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# SUPPORTING INFORMATION

# Abbreviations

ACRS	Advisory Committee on Reactor Safeguards	LAR	License Amendment Request
ADAMS	Agencywide Documents Access and Management System	LWR	Light-Water Reactor
AEA	Atomic Energy Act of 1954, as amended	ML	Manufacturing License
CFR	Code of Federal Regulations	NEI	Nuclear Energy Institute
COL	Combined License	NEIMA	Nuclear Energy Innovation and Modernization Act
CP	Construction Permit	NMSS	Office of Nuclear Material Safety and Safeguards
DAC	Design Acceptance Criteria	NRC	Nuclear Regulatory Commission
DC	Design Certification	NRR	Office of Nuclear Reactor Regulation
DG	Draft Regulatory Guide	OL	Operating License
ECCS	Emergency Core Cooling System	PRA	Probabilistic Risk Assessment
EP	Emergency Planning	RG	Regulatory Guide
ESP	Early Site Permit	SDA	Standard Design Approval
FFD	Fitness For Duty	SECY	Office of the Secretary
FRN	<i>Federal Register</i> Notice	SRP	Standard Review Plan
FSAR	Final Safety Analysis Report	SSC	Structure, System, and Component
I&C	Instrumentation and Controls	STP	South Texas Project
ISG	Interim Staff Guidance	TMI	Three Mile Island
ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria		



# References

Document Title	ADAMS Accession Number/FR Citation
Regulatory Guide 1.70, Revision 3, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," dated November 1978	<a href="#">ML011340122</a>
SECY-90-241, "Level of Detail Required for Design Certification Under Part 52," dated July 11, 1990	<a href="#">ML003707877</a>
IEEE Std. 603-1991, "Standard Criteria for Safety Systems for Nuclear Power Generating Stations," dated December 31, 1991	<a href="https://ieeexplore.ieee.org/document/159411">https://ieeexplore.ieee.org/document/159411</a>
NEI 01-01/EPRI TR-102348, Revision 1, "Guideline on Licensing Digital Upgrades," dated March 2002	<a href="#">ML020860169</a>
NEI 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline," dated July 2005	<a href="#">ML052910035</a>
Regulatory Guide 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance," dated May 2006	<a href="#">ML061090627</a>
NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 13.3, Revision 3, "Emergency Planning," dated March 2007	<a href="#">ML063410307</a>
NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 19.1, Revision 3, "Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated September 2012	<a href="#">ML12193A107</a>
Regulatory Guide 4.7, Revision 3, "General Site Suitability Criteria for Nuclear Power Stations," dated March 2014	<a href="#">ML12188A053</a>
NEI 96-07, Appendix C, Revision 0 – Corrected, "Guideline for Implementation of Change Processes for New Nuclear Power Plants Licensed Under 10 CFR Part 52," dated March 2014	<a href="#">ML14091A739</a>
"Results of Periodic Review of Regulatory Guide (RG) 1.201," dated April 23, 2015	<a href="#">ML15091A788</a>

# References (cont'd)

Document Title	ADAMS Accession Number/FR Citation
Interim Staff Guidance COL-ISG-025, "Changes During Construction Under 10 CFR Part 52," dated July 2015	<a href="#">ML15058A377</a>
NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 19.0, Revision 3, "Probabilistic Risk Assessment and Severe Accident Evaluation for New Reactors," dated December 2015	<a href="#">ML15089A068</a>
International Atomic Energy Agency, Specific Safety Requirements No. SSR 2/1, Revision 1, "Safety of Nuclear Power Plants: Design," dated February 2016	<a href="https://www.iaea.org/publications/8771/safety-of-nuclear-power-plants-design">https://www.iaea.org/publications/8771/safety-of-nuclear-power-plants-design</a>
NRC Letter to NEI Related to the Public Meeting of March 28, 2018, Regarding Avoiding Delays in Issuance of U.S. Nuclear Regulatory Commission Combined Licenses, dated May 9, 2018	<a href="#">ML18123A245</a>
Regulatory Issue Summary (RIS) 2002-22, Supplement 1, Clarification on Endorsement of Nuclear Energy Institute Guidance in Designing Digital Upgrades in Instrumentation and Control Systems, dated May 31, 2018	<a href="#">ML18143B633</a>
Regulatory Guide 1.206, Revision 1, "Applications for Nuclear Power Plants," dated October 2018	<a href="#">ML18131A181</a>
DI&C-ISG-06, Revision 2, "Licensing Process," dated December 2, 2018	<a href="#">ML18269A259</a>
NEI 18-04, Revision 1, "Risk-Informed Performance-Based Technology Inclusive Guidance for Non Light Water Reactor Licensing Basis Development," dated August 2019	<a href="#">ML19241A472</a>
NEI Letter to the NRC, "Part 50/52 Lessons Learned Rulemaking," dated March 9, 2020	<a href="#">ML20108F543</a>
NEI 96-07, Appendix D, Revision 1, "Supplemental Guidance for Application of 10 CFR 50.59 to Digital Modifications," dated May 2020	<a href="#">ML20135H168</a>

# References (cont'd)

Document Title	ADAMS Accession Number/FR Citation
Public Meeting to Discuss the Status of Rulemaking to Align Licensing Processes and Apply Lessons Learned from New Reactor Licensing [NRC-2009-0196; RIN 3150-AI66] held April 29, 2020, dated May 26, 2020	<a href="#">ML20141L609</a>
Regulatory Guide 1.233, "Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light Water Reactors," dated June 2020	<a href="#">ML20091L698</a>
NRC Letter to NEI, "Part 50/52 Lessons-Learned Rulemaking: U.S. Nuclear Regulatory Commission Transparency and Stakeholder Engagement," dated September 8, 2020	<a href="#">ML20156A308</a>
Regulatory Guide 1.200, Revision 3, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," dated December 2020	<a href="#">ML20238B871</a>
Regulatory Guide 1.237, Revision 0, "Guidance for Changes During Construction for New Nuclear Power Plants Being Constructed Under a Combined License Referencing a Certified Design Under 10 CFR Part 52," dated February 2021	<a href="#">ML20349A335</a>
"Design Review Guide (DRG): Instrumentation and Controls for Non-Light-Water Reactor (Non-LWR) Reviews," dated February 26, 2021	<a href="#">ML21011A140</a>
NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," last reviewed/updated March 9, 2021	<a href="https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/index.html">https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/index.html</a>
NEI, "Industry Comments on the Regulatory Basis for Alignment of Licensing Processes and Lessons Learned from New Reactor Licensing (Docket ID: NRC-2009-0196)," dated May 14, 2021	<a href="#">ML21144A164</a>

# References (cont'd)

Document Title	ADAMS Accession Number/FR Citation
Regulatory Guide 1.187, Revision 3, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," dated June 2021	<a href="#">ML21109A002</a>
NUREG-1021, Revision 12, "Operator Licensing Examination Standards for Power Reactors," dated September 2021	<a href="#">ML21256A276</a>
Draft Interim Staff Guidance; Request for Comment, "Safety Review of Light-Water Power-Reactor Construction Permit Applications," dated December 14, 2021	<a href="#">86 FR 71101</a>
Draft FRN to Support ACRS Subcommittee Meeting – 10 CFR Part 50/52 Rulemaking to Align Licensing Processes and Lessons Learned from New Reactor Licensing, dated January 27, 2022	<a href="#">ML22020A002</a>
ACRS Subcommittee Public Meeting – NRC Presentation for 10 CFR Part 50/52 Rulemaking to Align Licensing Processes and Lessons Learned from New Reactor Licensing, dated February 1, 2022	<a href="#">ML22020A001</a>
Draft Guidance Documents to Support ACRS Subcommittee Meeting Regarding Part 50/52 Proposed Rulemaking, dated February 15, 2022	<a href="#">ML22040A074</a>

# Changes to Tier 1 Information Without Prior NRC Approval

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- Industry desires more flexibility
- Additional process changes are not recommended due to experience with only one referenced DC
- Limited by the Atomic Energy Act

# Operators' Licensing NUREG-1021 Changes

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- Permit the use of suitable alternatives in lieu of the plant walkthrough portion of the operating test while the facility is under construction
- Permit waivers for examination and test requirements for multiple unit sites of the same design
- Require actions that would ensure that an operator license applicant's knowledge, skills, and abilities are maintained when there would be a significant amount of time between when the applicant successfully passes the licensing exam and completes the remaining requirements to be licensed
- Amend the definitions of "plant-referenced simulator" and "reference plant" to clarify that these terms are also applicable to simulators that model nuclear power plants that are under construction

# Status of RG 1.201

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## Development of regulation and guidance:

- 10 CFR 50.69 issued in 2004
- NEI 00-04 issued in final form in 2005
- RG 1.201 issued for trial use in 2006
- First application in 2014
- Summary of issues in 2015

Many changes are needed to address use of the rule before construction