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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

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FUKUSHIMA SUBCOMMITTEE

+ + + + +

WEDNESDAY

NOVEMBER 16, 2016

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ROCKVILLE, MARYLAND

+ + + + +

The Subcommittee met at the Nuclear
Regulatory Commission, Two White Flint North, Room
T2B1, 11545 Rockville Pike, at 1:00 p.m., JOHN W.
STETKAR, Chairman, presiding.

COMMITTEE MEMBERS:

JOHN W. STETKAR, Chairman

RONALD G. BALLINGER, Member

DENNIS C. BLEY, Member

CHARLES H. BROWN, JR., Member

MICHAEL CORRADINI, Member

WALTER L. KIRCHNER, Member

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DANA A. POWERS, Member

PETER RICCARDELLA, Member

GORDON R. SKILLMAN, Member

MATTHEW SUNSERI, Member

ACRS CONSULTANT:

STEPHEN SCHULTZ

DESIGNATED FEDERAL OFFICIAL:

MIKE SNODDERLY

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P R O C E E D I N G S

1:03 p.m.

CHAIRMAN STETKAR: The meeting will now come to order.

This is a meeting of the Advisory Committee on Reactor Safeguard Subcommittee on Fukushima.

I'm John Stetkar as Chairman of the Subcommittee.

Members in attendance today are Ron Ballinger, Pete Riccardella, Dick Skillman. We may be joined by Dana Powers, Matt Sunseri, Dennis Bley, Mike Corradini. We may be joined by Walt Kirchner, Charlie Brown and we may be joined by -- we're not going to be joined by Joy Rempe? I've been informed we will not be joined by Joy Rempe.

Mike Snodderly of the ACRS staff is the Designated Federal Official for this meeting.

We are also joined by Dr. Steve Schultz, our consultant to the subcommittee.

The purpose of today's meeting is to discuss the Draft Federal Register Notice containing the staff's Statement of Considerations to the Draft Final Mitigation of Beyond Design Basis Advanced Rulemaking.

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1 This is the last scheduled information
2 briefing to assist the Subcommittee as it prepares
3 to provides its reviews and recommendations to the
4 Full Committee on the Draft Final Mitigation of
5 Beyond Design Basis Advanced Rulemaking package.

6 The Full Committee is scheduled to write
7 a letter report on this matter at its December 29, 2016
8 meeting in about two weeks from now.

9 We will heard presentations from the NRC
10 staff including staff who have differing views on
11 this matter and presentation from the Nuclear Energy
12 Institute.

13 We've received no written comments or
14 requests for time to make oral statements from
15 members of the public regarding today's meeting.

16 This meeting is open to the public. The
17 Subcommittee will gather information, analyze
18 relevant issues and facts and formulate proposed
19 positions and actions as appropriate for
20 deliberation by the Full Committee.

21 The rules for participation in today's
22 meeting has been announced as part of the notice of
23 this meeting previously published in the Federal
24 Register.

25 A transcript of the meeting is being

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1 kept and will be made available as stated in the
2 Federal Register Notice. Therefore, it's requested
3 that all speakers first identify themselves and
4 speak with sufficient clarity and volume so they may
5 be readily heard.

6 I'll ask everyone to check your little
7 communications devices and turn them off. And, I'll
8 ask everyone to speak up, please, because I have a
9 cold and my ears are plugged. I can hardly hear
10 anything. Speak loudly, please.

11 The bridge line, I understand there may
12 be individuals on the bridge line today. The bridge
13 line will be closed on mute so those individuals may
14 listen in. At an appropriate time later in the
15 meeting, we'll have an opportunity for public
16 comments from the bridge line and from members of
17 the public in attendance.

18 We'll now proceed with the meeting and I
19 call upon Louise Lund of the Office Nuclear Reactor
20 Regulation to begin today's presentations.

21 Louise?

22 MS. LUND: Thank you.

23 Good afternoon. My name is Louise Lund
24 and I am the Director of the Division of Policy and
25 Rulemaking in the Office of Nuclear Reactor

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1 Regulation.

2 Sitting next to me is Mike Franovich and
3 he is the Acting Director of the Japan Lessons
4 Learned Directorate in our office.

5 And, sitting behind him is Mo Shams and
6 Greg Bowman, to Branch Chiefs, and JLD, as well as
7 Howard Benowitz who has been our OGC Representative
8 that has been with us through this long, long path.

9 And, also, Meena Khanna of my staff who
10 is the Branch Chief for Rulemaking.

11 And, you'll be hearing, of course, from
12 the staff at the table who will introduce
13 themselves.

14 I want to take this opportunity to thank
15 this Subcommittee for allowing us the opportunity to
16 discuss the Mitigation of Beyond Design Basis Events
17 Final Rule.

18 As you know, we have been working on
19 this rulemaking for many years. In November 2015,
20 we published the proposed rule for comment.

21 Since that time, we have met several
22 times with the Committee to address the staff's path
23 forward in addressing the public comments received
24 in the proposed rule.

25 And, most recently, on October 19th, we

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1 met with you to discuss the supporting draft
2 regulatory guidance associated with this rule.

3 This afternoon, we plan to walk you
4 through the MBDBE Final Rule and note where changes
5 have been made in comparison to the proposed rule.
6 And, of course, that's MBDBE is our acronym for this
7 particular rule, just in case anybody missed that.

8 Our goal is to provide you with an
9 opportunity to ask questions on any aspects of the
10 final rule.

11 Ultimately, we are seeking ACRS
12 endorsement for issuance of the MBDBE final rule
13 following the Full Committee meeting in December
14 2016.

15 Several members of the NRR are here this
16 afternoon to support this presentation. And, in
17 addition to ones I mentioned behind me, Tim Reed
18 from the Division of Policy and Rulemaking who will
19 lead the discussion of the final rule.

20 And, Tim is supported by the Technical
21 Expert for this rulemaking, Eric Bowman from the
22 Japanese Lessons Learned Division.

23 Additionally, we have members from the
24 working group and key NRR management in attendance
25 to assist in address any questions the Committee may

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1 have.

2 As you are aware, this rulemaking is a
3 very high priority for the Agency. Our schedule is
4 to provide the final rule to the Commission for
5 their review on December 16th of this year.

6 We look forward to an informative
7 interaction with the ACRS today. I want to thank
8 the ACRS for their flexibility in supporting the
9 staff with its review of this rule.

10 I will now turn this presentation over
11 to Tim Reed of my staff.

12 Thank you and over to you, Tim.

13 MR. REED: All right, thanks, Louise.

14 As we mentioned, I'm Tim Reed. I've
15 been the Project Manager for this rulemaking all the
16 way along and Eric is with me. We've been on this
17 for, I guess, over five years now from start to
18 finish.

19 CHAIRMAN STETKAR: Tim, just speak slow,
20 please.

21 MR. REED: Thank you. We should keep
22 track of how times I'm told to slow down.

23 And, the way I structured the
24 presentation, really, it's a vehicle for the
25 Committee to ask comments as we go along. And, I

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1 structured it as delta, if you will, a change
2 between the proposed to the final because that kind
3 of is where you are in the process here.

4 And, I think it's important to start
5 with a little bit of the 500,000 foot level. In
6 rulemaking, when you're at the final rule stage,
7 you're kind of constrained by two things.

8 One, you want to make sure that
9 everything in that final rule is properly noticed
10 under the Administrative Procedures Act. So, that's
11 a box we have to work within in rulemaking. That
12 applies to everybody that does rulemaking across the
13 government.

14 And, of course, the NRC itself is
15 implementing regulations in the form of backfitting
16 requirements in Part 52 finality provisions. And,
17 those, of course, are another very important
18 constraint on what we do in a final rule in terms of
19 we have to have a justification for anything in
20 terms of a new requirement.

21 So, I thought, keeping those two things
22 in mind and going from proposed to final and so many
23 differences, that's kind of framed as a walkthrough
24 of the rule, if you will, and allow the Committee to
25 ask questions. And, stop anytime you wish to ask on

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1 any aspects of the package, including guidance.

2 You know, Eric's up here. He's the
3 expert on all aspects, including the guidance. So,
4 that's how I structured it.

5 So, and Louise already mentioned this a
6 little bit, going to slide two, we're, of course,
7 seeking the Committee's letter on the rule. And,
8 you know, we want to discuss any feedback from the
9 Subcommittee here and, of course, we have the Full
10 Committee on November 30th.

11 And, I just mentioned, we're going to do
12 a walk through and kind of deltas and that's the
13 purpose in the slide.

14 Going to the third slide, here, I'll
15 mention a little bit of background, then, I'm going
16 to jump to the end here because I think I have, I
17 think, is Fred -- Fred's here. Okay, I'll jump to
18 that here in a second.

19 Some of this was mentioned by Louise.
20 Just to baseline folks here, I think almost
21 everybody here is very familiar with this
22 rulemaking, but last year, November 13th, we put the
23 rule out for comments, 90 day comment period.
24 That's 15 days longer than normal.

25 We got, I believe 20 comment

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1 submissions. They were pretty substantial, though.
2 So, it was actually a substantial amount of
3 information and very good information.

4 We've addressed that. And, I think that
5 information, that feedback allowed us, I think, to
6 significantly improve this rule and make it better.

7 And, that's what we've done. We've
8 discussed that. There's public comments for the
9 Committee on a couple of occasions so far and what
10 our path forward was on that. And, that's shown in
11 the final rule now.

12 Eric also discussed at the October 19th
13 meeting, as Louise also mentioned, some of the draft
14 supporting guidance. We have three draft reg guides
15 that support this rulemaking also.

16 So, we're in the office concurrent
17 stage. We're actually fairly deep into the office
18 concurrent stage. And, so, is right at the final,
19 hopefully, the final end of this rulemaking.

20 Yes, sir?

21 CHAIRMAN STETKAR: Or, Eric, you
22 mentioned the three draft reg guides that are
23 associated directly with the rule.

24 You're also issuing or in the process of
25 issuing a revision to interim staff guidance

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1 regarding review of the mitigating strategies, is
2 that correct?

3 MR. BOWMAN: That's correct. The
4 interim staff guidance that Mr. Stetkar is referring
5 to is the JLD ISG 2012-01. It's a guidance document
6 providing guidance for complying with the mitigation
7 strategies order, Order EA-12-049, that forms the
8 basis for what is in the preliminary final MBDBE
9 rule as 50.155, paragraph (b)(1).

10 There are also elements in the
11 supporting paragraphs for it as well.

12 So, while once we did publish the
13 interim staff guidance document for public comment
14 on the 10th of November. That comment period will
15 end on the 12th of December. At which point, we
16 will finalize the interim staff guidance document.

17 That's representing, if you will, the
18 lessons learned in the implementation of the order
19 that will be feeding into the supporting guidance
20 documentation, in particular, Regulatory Guide 1.226
21 that will carry forward the lessons learned from the
22 implementation as well as other feedback that we
23 have gotten from stakeholders.

24 And, that'll provide the guidance for
25 the rule.

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1 CHAIRMAN STETKAR: So, explain to me,
2 since the interim staff guidance will be used for
3 staff reviews of the submittals that are coming in
4 now, is that correct or will be submitted?

5 MR. BOWMAN: It's been an ongoing audit
6 process. It started out with submittals of the
7 overall integrated plans that licensees developed in
8 2012 for the mitigation strategies order.

9 In addition to the original integrated
10 plans, there have been updates from the licensees on
11 the progress they've been making as well as any
12 changes they've had to make as a result of their
13 lessons learned in putting together the strategies
14 and the guidelines.

15 Every six months, we've received an
16 updated from the licensees.

17 The review process has included not only
18 going over supporting documentation for the
19 integrated plans and the strategies using electronic
20 portals so that we could do a desk audit, if you
21 will, without visiting the sites, but also, a site
22 visit prior to the compliance states.

23 And, as an aside, we're also doing
24 inspections to verify the implementation once the
25 final unit on the site has come into compliance.

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1 CHAIRMAN STETKAR: But, the interim
2 staff guidance also covers guidance for the review
3 of the eventual mitigating strategies for the
4 reevaluated flooding seismic hazards, is that
5 correct?

6 MR. BOWMAN: We are working on the third
7 revision to the ISG, I'm sorry, the second revision
8 to the ISG and the third version of it.

9 CHAIRMAN STETKAR: I was going to say,
10 come on. It's hard enough to keep track of what's
11 there.

12 MR. BOWMAN: In the revision one to the
13 interim staff guidance document, which endorsed the
14 industry guidance document, NEI-12-06, their
15 revision two included the -- most of the mitigating
16 strategies assessment guidance for how to evaluate
17 the effects of the reevaluated hazard information on
18 the mitigating strategies.

19 The only addition right now is the
20 seismic probabilistic grid for assessment uses.

21 So, yes, it does, in anticipation of
22 having the requirements in place under the MBDBE
23 rule as was described, there was COMSECY-140037 and
24 150019 that dealt with the flooding action plan on
25 the -- addressing the reevaluated hazard information

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1 in the strategies that have developed under the
2 order.

3 CHAIRMAN STETKAR: Where I'm trying to
4 get on this is that the ACRS will be writing a
5 letter on the rule package which includes the rule
6 language, Statements of Consideration and the three
7 Reg Guides.

8 But, in practice, those Reg Guides won't
9 be used for any staff reviews of anything in real
10 time, will they?

11 And, then, if that's the case, if the
12 interim staff guidance has just been submitted for
13 public comments, is there a chance that the interim
14 staff guidance, JLD ISG 201201 Rev 2 will diverge
15 from what we are reviewing for Regulatory Guide
16 1.226.

17 Since that the staff reviews that are
18 being done in real time will not be done relative to
19 the reg guide, but to something else.

20 MR. BOWMAN: The staff reviews are
21 reviews to the requirements of the order and,
22 essentially, what you'll see in the MBDBE rule is
23 making requirements to the order of generically
24 applicable, taking into account the lessons learned
25 in the implementation which is where the updates to

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1 the interim staff guidance come in and the input
2 from stakeholders.

3 We will not have a major delta between
4 the final version of the Reg Guide 1.226 from what
5 you see in the final version of the interim staff
6 guidance revision two.

7 Right now, we're pre-decisional. I
8 haven't received any comments yet from the public or
9 from industry on the updated version of the draft
10 revision to the ISG.

11 I'm planning on working over Christmas
12 and New Year's to fix things and get it ready for
13 people to rely on and for licensees to understand
14 what compliance with the rule will mean and for the
15 Commission to take into account in their voting.

16 MEMBER CORRADINI: So, I asked Dennis if
17 he could explain what you just said. But, I'm a bit
18 confused.

19 So, the order is connected to the ISGs.

20 MR. BOWMAN: That's correct.

21 MEMBER CORRADINI: And, the order is
22 still under the licensees -- confirmation that the
23 licensees have done what the order is telling them
24 to do is underway?

25 MR. BOWMAN: That's correct. I forget

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1 exactly how many units we've got in compliance now.
2 It's somewhere --

3 MEMBER CORRADINI: But, I'm just trying
4 to understand the logic which, I think, John was
5 going down. But, you lost me there as you were
6 explaining it. So, that part I got.

7 Now, you have the rule and then you have
8 the reg guides that connect to the rule. Are those
9 duplications of what is there or is there a delta --

10 What I don't, for me, what I don't want
11 to do is have the licensees go back and redo things.

12 MR. BOWMAN: The most significant delta
13 and probably about the only delta that will, in
14 fact, exist is that the ISG, because it demonstrates
15 or it lays out an acceptable means of complying with
16 the order, cites the order as the regulatory
17 requirement.

18 The regulatory guide has to say the rule
19 as what is providing an acceptable method of coming
20 into compliance with as the regulatory requirement.

21 The regulatory guide will not point to
22 the order, because, as Tim will get to later on in
23 the presentation, the order will be rescinded as a
24 part of putting the rule into place.

25 CHAIRMAN STETKAR: Let me cut to the

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1 chase here. We're aware of the nonoccurrences and
2 we're going to hear a presentation on one of them
3 related to the rulemaking package.

4 And, those nonoccurrences, in my
5 opinion, address elements primarily associated with
6 the regulatory guidance.

7 I have no idea how that process works
8 out such that the reviews that are done under the
9 interim staff guidance for compliance with the order
10 will be consistent with the eventual resolution of
11 the nonoccurrences on the regulatory guidance, if I
12 can put it that way, or the rule package.

13 Because, it strikes me that they can
14 diverge and that wouldn't be good for anyone.

15 MR. BOWMAN: There are two sets of
16 nonoccurrences. We had one on the rule package.
17 That nonconcurrency has been resolved. And, the
18 nonconcurrency package has been finalized.

19 It has not been made publically
20 available, but it will be made publically available
21 once the final rule is delivered to the Commission.

22 That one had to do with the --

23 CHAIRMAN STETKAR: We'll hear about
24 those later. So, I'm more concerned about
25 divergence.

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1 MR. BOWMAN: The other nonconcurrence is
2 on the -- and, you will hear about this one also --
3 is only on the path five of the mitigating
4 strategies assessments for the reevaluated seismic
5 hazard.

6 No licensee has completed that
7 mitigating strategies assessment yet and will not
8 until the seismic probabilistic risk assessment is
9 accomplished because that is included in what the
10 path five takes into account when using the
11 mitigating strategies assessment.

12 We do not anticipate that any of them
13 will be completed prior to the rule being finalized.

14 CHAIRMAN STETKAR: So, let me --

15 MR. BOWMAN: We have asked the question
16 on the subject of the nonconcurrence for seeking
17 specific input from stakeholders and we have not yet
18 -- we resolved the nonconcurrence for the interim
19 staff guidance to the extent that we are taking it
20 into account.

21 And, once we've got all the views of
22 stakeholders in, we'll come to a conclusion on what
23 should be in the ISG, whether we endorse or endorse
24 with exceptions or clarifications, the proposed
25 guidance for the path five MSAs.

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1 But, it will be done before the
2 regulatory guide is finalized and before the rule is
3 done.

4 CHAIRMAN STETKAR: Well, but, Eric,
5 you're asking the ACRS to write a letter on -- you
6 just told me that there might be tweaks to the ISG
7 as a result of stakeholder input and resolution of
8 the nonconcurrence. That's at least what I thought
9 I heard you say.

10 Those tweaks won't be accomplished until
11 what I thought I heard you say also, is sometime in
12 January.

13 If those tweaks put the interim staff
14 guidance on a different trajectory from the
15 regulatory guides that you're asking the ACRS to
16 pass judgment on two weeks from now, then we have a
17 question about divergence of staff guidance and
18 reviews of these submittals.

19 Because, we'll have a regulatory guide
20 that may be different from the interim staff
21 guidance.

22 So, what are you asking the ACRS to
23 redo?

24 MR. REED: So, essentially, I think if I
25 can simplify this. This is coming down to path five

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1 with is in Appendix H, right? It's one piece,
2 that's the only piece we're talking about.

3 And, you have to write your letter on
4 our guidance and take it, basically, have to, I
5 think, carve that out and say, I can't write that
6 letter --

7 CHAIRMAN STETKAR: You can't write our
8 letter for us. I'm just trying to understand what
9 we're supposed to write a letter on.

10 MR. REED: I think it's -- maybe I'm
11 presuming the end state here, but I think that's
12 where you were heading.

13 If I were in --

14 CHAIRMAN STETKAR: You're not.

15 MR. REED: -- your shoes, and I am not
16 in your shoes, I would look to the ISG, the draft
17 ISG as it has been published --

18 CHAIRMAN STETKAR: Which we haven't seen
19 yet, by the way. We'll get it since I'm now aware
20 that it's available.

21 MR. FRANOVICH: This is Mike Franovich,
22 JLD Director.

23 I think we really do value having the
24 Committee's view on the ISG seismic path five
25 guidance as presented today in the Federal Register

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1 Notice.

2 There is --

3 CHAIRMAN STETKAR: I'm sorry, Mike, the
4 ISG or the --

5 MR. FRANOVICH: The ISG on regarding
6 endorsing NEI-12-06 Appendix H.

7 There is a possibility, I think you made
8 a legitimate point, that after we're done with the
9 public notice and comment period, that something may
10 change that may be of substance. I can't guarantee
11 that it won't happen or one way or another. But, we
12 haven't received any comments yet on the 30 day --
13 during the 30 day comment period.

14 So, there is a possibility of that.
15 And, that does open the door of possibility that it
16 could alter the Committee's view, depending on what
17 we change, if we make any changes down the road in
18 finalizing the reg guides.

19 So, that -- you're correct in pointing
20 that out. But, we really do want your assessment of
21 what's presented in the ISG today as it stands out
22 there for notice and comment.

23 CHAIRMAN STETKAR: Okay. Well, the ISG
24 wasn't on our agenda to review today and I certainly
25 haven't seen it. I'm not sure if any of the other

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1 members of the Subcommittee have seen. So, we're
2 not going to be discussing the ISG Rev 2 today
3 because we haven't seen it.

4 Remember, by the way, that we have an
5 agreement that materials should be presented to the
6 Subcommittee and the Full Committee 30 days before
7 our meetings, not three.

8 So, we haven't seen that and we're not
9 going to discuss the ISG today. We're going to
10 discuss the rule package which includes the draft
11 rule language, the Statements of Consideration, the
12 three regulatory guides that we have seen and the
13 nonconcurrence issues.

14 And, the Full Committee will not take up
15 the ISG either because we have not had sufficient
16 time for the Full Committee to review that material,
17 especially since it's only out for public comments.

18 So, there we are.

19 Continue, please.

20 MR. REED: Okay. I'm going to go
21 through the background slide here real quick and
22 then I'm going to go out of order here for a second
23 because I have Fred Schofer here, so I want hit a
24 backup slide while Fred's still here.

25 Most of this background was already

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1 mentioned. I started with the fact that we put it
2 out for 90 days. That 90-day comment period closed
3 February 11th of this year. I mentioned that
4 already.

5 And, we met with the ACRS on the 17th
6 and October 19th. And, I mentioned that we have an
7 in office concurrence.

8 And, I think I mentioned that,
9 basically, if everything in the final rule for
10 almost virtually everything that stems from our
11 addressing the comments, so you can map the proposed
12 rule, the final rule through the comment responses
13 and see what happened.

14 And, we'll also mention here, as I get
15 later on in the slides, that we actually had a
16 cumulative effects regulation public meeting last
17 Thursday. And, that has actually affected the
18 language. And, I'll talk about that when I get to
19 the implementation.

20 Before we go to that, since I have Fred
21 here and if you have any questions, I'm going to
22 have the expert here.

23 If you -- there's a backup slide on reg
24 analysis. I just want to hit this pretty quick,
25 just to make sure everybody's aware of that.

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1 The MD -- this rule, the Beyond Design
2 Basis Events rule is a major rule. And, I think
3 that might kind of surprise folks, but it's a major
4 rule due to we're having to address the additional
5 costs associated with reevaluated hazard
6 information.

7 That is the rule saying, it's already
8 been mentioned a few time already today, is
9 addressed under 50.155(b)(2).

10 And, that results in a pretty
11 significant amount of costs occurring or, in our
12 estimation.

13 And, I want to point these out to folks.
14 There has been, of course, I think it's pretty safe
15 to say, several billion dollars' worth of sunk costs
16 that occurred because of the mitigation strategies
17 order which has already been largely implemented.

18 And, the spent fuel instrumentation
19 order already been implemented.

20 This is not those costs, these are
21 additional costs addressing the reevaluated hazards.
22 Okay? Which is -- can be pretty significant.

23 And, so, what we show there on this
24 slide is that we're estimating right now, and I
25 believe these are actually very, very good

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1 estimates. They make use of the information that
2 was provided by industry and we actually explicitly
3 requested this information. We got it, we made use
4 of it and in response to the proposed rule.

5 And, in fact, we fine-tuned that based
6 on our knowledge of what's going on right now with
7 the reevaluated hazards.

8 As just was mentioned, we're already
9 addressing this information using the various paths
10 in the guidance. So, we're pretty familiar with
11 where the stance.

12 So, we used our best estimate right now,
13 information, as well as who's in what path from the
14 ACRS presentation, I think it was within the last
15 month.

16 So, this is as update to date, in fact,
17 as we can get it.

18 But, nonetheless, it comes down to, as
19 you can see there, a one-time cost of roughly \$128
20 million on a mean level with a recurring annual cost
21 of \$1.2 million. And, that correlates a net present
22 value of \$141 million at 7 percent discount.

23 That makes is a major rule, if you're
24 familiar with the Congressional Review Act and
25 having \$100 million impact on the economy.

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1 Now, what does that mean? That means
2 that the effective date of the rule, that's
3 literally one number in the entire rule goes from 30
4 days to 60 days.

5 But, generally, when we talk about major
6 rules, usually people want to know about that. And,
7 obviously, reg analysis has been a very big focus
8 for this Agency ever since we started the cumulative
9 effects regulation process five years ago.

10 And, so, I wanted to highlight that to
11 the Committee. And, if you had any questions on
12 that, I have Fred here. I didn't know if that was
13 an interest to the Committee. But, I know Fred's
14 definitely one of the busiest guys in the Agency, if
15 not the busiest. And, so, I didn't want to take up
16 too much of his time.

17 So, if you have any questions, shoot and
18 then, I'll -- if not, we'll go back and we'll go
19 through the normal flow of the presentation.

20 CHAIRMAN STETKAR: Is the regulatory
21 analysis available in ADAMS now?

22 MR. REED: Yes, it is.

23 CHAIRMAN STETKAR: Good, because our
24 package didn't indicate that it was.

25 MR. REED: By the way, the ADAMS package

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1 number for this rulemaking, it has package is
2 ML16301A005.

3 CHAIRMAN STETKAR: Can you do that
4 again, please?

5 MR. REED: ML16301A005. And, you'll
6 basically find everything in there. You'll find the
7 SECY paper, the upper end, the EA, the Environmental
8 Assessment, the backfit, the OMB information
9 collection analysis, the common response document
10 and the reg analysis. It's all in there. Okay?

11 CHAIRMAN STETKAR: Thank you very much.

12 MR. BOWMAN: None of those documents are
13 finalized yet and the ADAMS package has not been
14 made public because --

15 MR. REED: That's right.

16 MR. BOWMAN: -- it's still undergoing
17 concurrence. But --

18 MR. REED: Changing daily.

19 MR. BOWMAN: But, those documents in
20 that package are the most up to date with the -- all
21 of the changes that have resulted from concurrence.

22 MR. REED: And, as I go along today,
23 I'll try to identify anything that's significant
24 that, from what I gave the Committee, I think it was
25 more than a month ago. I can't remember how long

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1 ago that was provided to you, but, I'll try to keep
2 tabs and try to provide you anything I think is
3 substantively different.

4 The vast majority of all the changes
5 that FRN have been improvements, but they need
6 clarifications and trying some of the grammar
7 understanding, the words better, but nothing truly
8 substantial as we've gone along, which it's a good
9 indicator, by the way. You're not hitting any real
10 got you's at this point.

11 So, anyway, I'll go back to the normal
12 flow if the Committee doesn't have any questions on
13 reg analysis and we can let Fred, if he wants to go
14 and actually do something constructive, he can go.

15 Anyway, so, with that then, let's go to
16 slide four. And, this slide is, I thought we might
17 have several new members, I know there's three or
18 four new members in ACRS.

19 And, so, I wanted to provide an overview
20 of the rule. I think this is -- it's kind of good
21 to do.

22 This rule, I think, down the curve form,
23 is actually much more understandable and much
24 simpler than the proposed rule form.

25 And, so, that's why I want to go through

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1 high level. And, then, I'll have slides as we walk
2 through each of the different pieces of the rule as
3 we go along. But, I just wanted to give you kind of
4 an overview right now.

5 We've condensed the objectives to this
6 rule to the three right there. Of course, the main
7 thing, of course, is making proposed Fukushima Order
8 EA-12-049 that we'll call mitigation strategies
9 order, NEA-12051 which we call the spent fuel pool
10 implementation order generically applicable.

11 Those orders were very broadly
12 implemented. And, as a result of the broad
13 implementation, you ended up with an awful lot more
14 than just may meet the eye.

15 And, with those additional requirements
16 and the fact that we also have in place right now
17 mitigation strategies under 50.54(hh)(2), we saw
18 this as an opportunity to take this together, bring
19 this together into one run, produce this integrated
20 capability with all our mitigation strategies in one
21 place, support it with the right set of requirements
22 and that's where you're seeing establish
23 requirements for an integrated response capability.

24 Sort of staffing, of course,
25 communications, command and control and then drills,

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1 training and exchange control.

2 So, it's structured like most rules are
3 in Part 50. And, it starts with applicability
4 paragraph A.

5 And, we've had the opportunity to do
6 what I think I bet everybody wishes they had always
7 done is also have decommissioning provisions in the
8 rule also.

9 So, we have -- it applies to power
10 reactor licensees and applicants under Part 50 and
11 Part 52. We'll go into that in a second.

12 But, we also have, in that same
13 paragraph, how it phases out when you get to the end
14 of reactor life and you go into decommissioning.

15 So, we've done -- we've tried to do both
16 of these. Okay? So, and we've that, of course, in
17 accordance with the recent decisions by the
18 Commission in decommissioning space. We're not
19 carving out new territory there.

20 The heart of the rule is the integrated
21 response capability. That's paragraph B. Okay?
22 That's the strategies --

23 Yes, sir?

24 CHAIRMAN STETKAR: If we have -- I know
25 you want to give an overview now, but --

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1 MR. REED: Sure.

2 CHAIRMAN STETKAR: -- so, I won't
3 interrupt you, but I want to have time to make sure
4 that we do address each of the major paragraphs of
5 the rule because I have questions.

6 MR. REED: Okay, I can go through this a
7 little quicker. Sure, sure.

8 CHAIRMAN STETKAR: But, for the -- run
9 through the N through I first.

10 MEMBER CORRADINI: And, don't go
11 quicker, you're doing fine.

12 MR. REED: Okay, I'm going to try go
13 quick while talking slow.

14 MEMBER CORRADINI: Well said.

15 MR. REED: So, we have the integrated
16 capability in B. We have equipment requires in C
17 that support that integrated capability. Okay? So,
18 that basically puts it in place.

19 Then you have training, drills and
20 change control, D, E and G which maintain the
21 capability over time. That's the philosophy how we
22 constructed it.

23 I have the spent fuel pool
24 instrumentation requirements set alone because they
25 are, in fact, are separate requirements and have to

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1 set alone enough.

2 Then we have implementation requirements
3 which we always have in our regulations. And, as
4 Eric already mentioned, we're going to try to clean
5 the regulatory cleanup, clean up the regulatory mess
6 because we have a whole lot of the same requirements
7 now and orders and regulations and we want to make
8 it one set of requirements for all these licensees
9 in one place with one set of words. Right?

10 So, that's what we're trying to do in
11 paragraph five, basically clean up the regulatory
12 situation.

13 So, that's it. That's the structure of
14 the rule very quickly.

15 We'll go to five and we'll start working
16 through now the changes.

17 The final rule is a clarified and
18 approved version of the proposed rule. And,
19 largely, what results in aligning the actual
20 requirements with the way the implementation
21 guidance and actually was performed.

22 I've already mentioned the ISGs for the
23 orders. What we've done is we're carrying that
24 forward, that guidance, and we're making sure the
25 regulation aligns with that guidance. And, I think

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1 we've accomplished a lot of that here.

2 The substantive requirements with only
3 two exceptions are basically the same in the final
4 rule as they were in the proposed rule.

5 The exceptions are, we removed multiple
6 source term delta assessment requires. We simply
7 could not justify those under our backfitting
8 requirements.

9 And, we mentioned, we were trying to
10 clean up the regulatory situation there with
11 paragraph I and replace all the redundant
12 requirements out there with one set. So, that's
13 recisioning the orders and removing license
14 conditions to try to clean the slate.

15 So, that's the two differences from the
16 proposed rule.

17 And, then we have -- I have a list of
18 what I view to be the most significant improvements
19 or clarifications, if you will, to the final rule
20 versus the proposed rule, and each of these, we'll
21 mention as we go along.

22 But, I think moving the reevaluate
23 hazards information into (b)(2) aligned the rule
24 with the guidance and provided the flexibility and
25 the rule that aligns with what's actually provided

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1 on all the various paths in the guidance and
2 Appendix G and Appendix H of NEI total of six
3 specifically.

4 That enabled also another benefit that
5 occurred. That allows us to align regional
6 detection with its associated paragraph in B. So,
7 that enabled a clarification of regional protection
8 requirements there.

9 We mentioned a little bit to
10 nonconcurrence on loss of OEC. We also had
11 confusion from the external stakeholders on loss of
12 OEC requirements.

13 So, we've clarified the requirements and
14 the loss of OEC, requirements in both the
15 regulation, removing the word extended as well as to
16 clarify the supporting Statement of Considers as to
17 what they mean.

18 Staff and communications was improved by
19 moving it into 50.155 directly. And, into 50.155
20 and directly linking it to the strategies.

21 Obviously, if you're going to be
22 successful in mitigation strategy, you need to have
23 enough people and you have to have the communication
24 capability onsite and offsite.

25 And, by doing that, I think we moved

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1 what was -- could have appeared to be an analysis
2 requirement, almost a one-time analysis requirement
3 and made it living, pulled it into the rule and
4 linked it directly to the strategies, which I think
5 is the most significant improvement in the rule.

6 Spent fuel pool instrumentation was
7 moved to F and basically decoupled in alignment with
8 the actual purposes of the orders.

9 Flexible schedule was provided in
10 response to community FLEX regulation input that
11 would write it on the proposed rule. We'll talk
12 about that also.

13 And, change control -- the change
14 control requirements, now we're calling them
15 documentation changes, was clarified in the
16 Statement of Considerations.

17 So, that's the big ticket, the high
18 level changes that we'll see as we go through each
19 of the paragraphs.

20 So, now, I'll start going through. I'm
21 on slide six.

22 So, starting with the applicability
23 requirements in paragraph A, we had in the proposed
24 rule, we had two applicability requirements and the
25 second one, 50.155(a)(2) really was deleted as

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1 unnecessary because, in fact, (a)(1) accomplish the
2 same end state. And, so, that was an easy
3 clarification to the rule and then resulted in a
4 renumbering of paragraph A so that three became two,
5 et cetera.

6 So, the decommissioning or the phase out
7 provisions, if you will, are now 50.155(a)(2).

8 And, there's the first one I want to
9 note to the Committee. I draft that I provided
10 about a month ago, if you look at those phase out
11 provisions, you'll see it said, I think B through E.
12 Okay? It should say B through E and G.

13 Because the only thing we're -- we're
14 going to have change control in that first phase out
15 on the applicability.

16 And, just at a high level, I think just
17 the way that works is, I think that everybody
18 hopefully understands is, once you remove the fuel
19 from the reactor, it's gone into the spent fuel
20 pool, right, there's no -- obviously, no concern
21 with the reactor any more or the primary
22 containment.

23 Your entire focus goes to the spent fuel
24 pool and, therefore, all your strategies now are
25 limited to the spent fuel pool.

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1 You basically keep all that and that's
2 why I said B through E and G. That's change
3 control.

4 You don't need spent fuel pool
5 instrumentation any more. There's no opportunity to
6 be distracted. Everything's in one spot.

7 So, now, if that's what you have -- and
8 you have that until you can justify through an
9 analysis that you retain, you have low enough decay
10 heat to have basically a long enough boil off time
11 to take out hot measures.

12 At that point, a year or a year and half
13 into it, into decommissioning, now, you can now
14 reduce it down to 50.155(b)(3).

15 So, that's what that's saying. And, in
16 simple words, that's what we're trying to say in the
17 regulations there. And that's exactly what we've
18 allowed the last five plants and have another one
19 about to just go through the process, too, to have
20 decommission.

21 So, that's no new regulation there.
22 And, that's how that paragraph works. We've
23 clarified it and that shows what our clarifications
24 are.

25 That's all I wanted to cover on

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1 paragraph A.

2 Yes, sir?

3 CHAIRMAN STETKAR: Okay. Something I
4 missed when I read through the previous version of
5 the rule language.

6 When you talk about decommissioning, it
7 says that, if I have a plant where I have a
8 secondary containment, I need for now, releases from
9 the spent fuel pool. My mitigating strategies must
10 address maintenance of that secondary containment
11 function. Is that true?

12 MR. BOWMAN: It's a maintenance or
13 restoration of the capability. Not necessarily the
14 function all along.

15 For example, it's easier to understand
16 in the case of the primary containment for a BWR if
17 you maintain the containment function itself to
18 contain things, it wouldn't be possible to open a
19 vent.

20 But, maintaining the capability would
21 allow opening a vent and closing a vent again.

22 CHAIRMAN STETKAR: I was looking for a
23 simple yes or no answer. So, I'll interpret that as
24 a yes.

25 MR. REED: Well, it's not containment

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1 integrity, it's containment capability. That's the
2 --

3 CHAIRMAN STETKAR: Okay, containment
4 capability, I'm sorry, I used the word function.

5 MR. BOWMAN: So, it would have been no.

6 CHAIRMAN STETKAR: Can you give me an --
7 but, if I don't have something called a secondary
8 containment to do whatever it does for releases from
9 my spent fuel pool, I don't need to worry about it,
10 is that correct?

11 I'm looking for a yes or a no.

12 MR. BOWMAN: Yes.

13 CHAIRMAN STETKAR: Okay, thank you.

14 So, what's an example of a secondary
15 containment in a real plant that I would now need to
16 maintain its capability after I've moved all of the
17 fuel into the spent fuel pool? This is under you
18 decommissioning kind of phase out. Do you have an
19 example of one of those?

20 MR. BOWMAN: Some of the BWRs have spent
21 fuel pools in what is termed their secondary
22 containment.

23 There is a single strategy in NEO0612
24 that addresses issues with that type of a situation.
25 That is in Section 3.3.7 of NEI06-12 Revision 2.

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1 That is the strategy for portable sprays to be used
2 on the external of a containment or other building
3 that has a breach in order to reduce the releases
4 form that particular breach.

5 MR. BOWMAN: That is really the only
6 strategy that winds up being maintained in the
7 decommissioning process as a result of that
8 particular --

9 CHAIRMAN STETKAR: And, that's strictly
10 for those BWR designs?

11 MR. BOWMAN: Only for licensees that
12 rely on a secondary containment for -- as a barrier
13 to fission product released for the spent fuel pool
14 source term.

15 CHAIRMAN STETKAR: Thank you.

16 MR. BOWMAN: That is in the EDMGs that
17 are in the paragraph (b)(3) of 50.155, currently in
18 50.54)h)(h)(2).

19 CHAIRMAN STETKAR: Thank you.

20 MR. REED: I don't know, there's a
21 gentleman in the --

22 CHAIRMAN STETKAR: You many, Jim, just
23 come up to the microphone, identify yourself and
24 speak with sufficient clarity and volume.

25 MR. REILLY: Thank you.

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1 My name is Jim Reilly. I work for NEI.

2 NEI and the industry also identified
3 this question about applicability in the
4 decommissioned plants to secondary containment.
5 And, it will be one of the things that's in our
6 presentation.

7 And, a couple of thoughts of that on
8 that. First of all, recognizing the question here
9 with respect to containment capabilities as opposed
10 to contain and function, we think that the intention
11 of the rulemaking was to move the requirements from
12 50.54(hh)(2) over into the new rule without any
13 changes.

14 And, it's our contention that this
15 addition of the requirement to maintain secondary
16 containment is an addition. That wasn't part of
17 (hh)(2) and, therefore, it shouldn't be in the new
18 rulemaking.

19 And, one thing that (hh)(2) talks about
20 maintaining containment. It doesn't talk about
21 maintaining secondary containment.

22 There is this statement, as Eric alluded
23 to, within the NEI guidance document. But, it talks
24 about the ability to spray down the buildings with
25 the intended purpose of reducing particulate

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1 releases.

2 But, that doesn't -- that's not
3 maintaining secondary containment, that's mitigating
4 the results of a release. There's a difference
5 there.

6 So, we think that this inclusion is not
7 right and it's not -- it doesn't seem to be
8 consistent with the stated goal we believe of just
9 transferring a requirement, it's not adding any.

10 I'll add kind of an additional thing.
11 It makes it all look a little bit odd from the
12 perspective that, because you put that statement in
13 there with respect to decommissioning plants, you've
14 made it a higher threshold to maintain the secondary
15 containment for a decommissioned plant than you have
16 for an operating plant. And, that doesn't seem to
17 make any sense either.

18 So, I think on both those -- from both
19 those perspectives, I think this was something that
20 just kind of got through without folks really
21 hitting on initially, but, I think this needs to be
22 corrected when the rulemaking goes forward.

23 CHAIRMAN STETKAR: Thanks. And, I see
24 you have a slide in your presentation. So, we'll
25 hear about that.

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1 And, as I said, I personally, I missed
2 it when I read through the July version of the draft
3 rule language that we had at a previous Subcommittee
4 meeting and didn't really recognize it until I read
5 through the Statements of Considerations and started
6 thinking about it a little bit.

7 So, thank you.

8 MR. REED: Well, I was finished with
9 paragraph A.

10 CHAIRMAN STETKAR: Anything more on
11 paragraph A? Because we're going to get to
12 paragraph B, which is a bigger paragraph.

13 MR. REED: Much more, yes.

14 All right, let's go on to paragraph B
15 then.

16 This is really, I think, the central
17 piece, if you will, of this entire rule. It's where
18 we have our integrated response requirements.

19 And, the changes when we go from
20 proposed to final, stem from moving that reevaluated
21 hazard information.

22 If you will recall, that was proposed as
23 C2 high. It was very late in the game when we got
24 the staff requirements memorandum on COMSECY 140037,
25 it might have even have been April and we were that

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1 this committee, I think, within like a week of that.

2 We literally could not do much more than
3 what we had in the proposed rule at that time. And,
4 I believe that the guys at NEI had a suggestion on
5 their slides which looked pretty good and then we
6 got comments to that effect.

7 And, I think this was a significant
8 improvement because it enables the reevaluated
9 hazard information to be addressed through a number
10 of ways and we've built that into the language there
11 in 50.155(b)(2).

12 You can address that as either, you
13 know, using your FLEX as is. You can address it --
14 by the way, I'm talking, when I say reevaluate
15 hazard, I'm talking the seismic and flooding
16 reevaluated hazard information.

17 I'm talking about the information --
18 this is with regard to the March 12th, 2012 Request
19 for Information that was sent out and to those
20 licensees and then the response back on seismic and
21 flooding.

22 So, basically, you can address this
23 information either, and our language shoes that, in
24 either a -- using FLEX, I'll call it as is, FLEX
25 Star, if you will, enhancing FLEX, increasing FLEX's

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1 capabilities.

2 And, by the way, when you do that, then
3 really, if that's how you're address it, your (b)(2)
4 becomes (b)(1), if you will.

5 Or, you can use an alternate approach or
6 a plant specific approach. And, this an entirely
7 different thing. So, we've -- and that, by the way,
8 if you go into our guidance and you look at, I think
9 it's four or five paths.

10 Or perhaps (1)(g) at five (5)(1) which
11 will be (5)(1)(h), that now aligns the language with
12 all those paths and all those options.

13 We're very flexible on how we're
14 allowing licensees to address the information and
15 reevaluate hazard information. Now, the language
16 aligns with that flexibility in the guidance. And,
17 I think this is a significant improvement.

18 Again, it was the intent, as this
19 requirement is supposed to mean is, I think we've
20 significant improves regulation by doing it.

21 So, that puts it into right in the
22 middle there in (b)(2). (B)(1) stays the same and
23 that's the mitigation strategies for beyond design
24 bases there. And, that's SCA 12049 basically right
25 in our regulation.

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1 Then, you have our reevaluated hazard
2 information in (b)(2). We have EDMGs from
3 50.54(hh)(2) coming in as (b)(3). And those are the
4 three sets of requirements -- three steps of
5 guidance and strategies that are in there --

6 Yes, sir?

7 MEMBER CORRADINI: Just to -- I'm going
8 to try to slow you down here a little while.

9 MR. REED: Okay.

10 MEMBER CORRADINI: So, those three again
11 are?

12 MR. REED: You've got FLEX, or if you
13 want to call it mitigation strategies for beyond
14 design basis external events. That's from MODR EA-
15 12-049, that's (b)(1).

16 MEMBER CORRADINI: I'm going to say this
17 is for the new members but --

18 MR. REED: Sure.

19 MEMBER CORRADINI: -- it helps me, too.
20 So, that's FLEX?

21 MR. REED: Yes, that's FLEX, (b)(1) is
22 FLEX.

23 (B)(2) is your way of addressing the
24 reevaluated seismic and flooding hazards.

25 MEMBER CORRADINI: In case FLEX doesn't

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1 cut it?

2 MR. REED: Yes, right.

3 MR. BOWMAN: If (b)(2) has two subparts.
4 There's (b)(2)(I) which is a modification of the
5 (b)(1) strategies and guidelines. So, it would have
6 the same constraints as the (b)(1) strategies and
7 guidelines which are --

8 MEMBER CORRADINI: No, that's okay.

9 MR. BOWMAN: Just reading ahead to the
10 NEI presentation, I want to be sure that there's an
11 understanding of how this section works.

12 And, (b)(2)(I), a licensee is required
13 to have strategies and guidelines that maintain or
14 restore core cooling containment and spent fuel pool
15 cooling containment capabilities along with the rest
16 of the pieces of (b)(1).

17 (B)(2)(ii) which is merely event-
18 specific approaches would be doing something else
19 for the reevaluated hazard information. In the
20 guidance level when you get to it, you'll see the
21 alternate mitigating strategies and the targeted
22 hazard mitigating strategies where either the loss
23 of offsite power does not occur or in the targeted
24 hazard mitigating strategies, a licensee does not
25 necessarily maintain the containment function.

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1 (B)(2)(ii) does not incorporate all of
2 the requirements of (b)(1) which are the requirement
3 to maintain or restore core cooling, containment and
4 spent fuel pool cooling capabilities.

5 So, it's an event specific approach that
6 follows the guidance that's endorsed essentially.
7 And, that's --

8 MR. REED: So, that's what I saying when
9 aligned, the rule now aligns very much with the
10 guidance. I think it's a good clarification.

11 MEMBER CORRADINI: And, then, there's a
12 third?

13 MR. REED: Then the third one is what'
14 right now in 50.54(hh)(2) --

15 MEMBER CORRADINI: That's the EDMG?

16 MR. REED: -- EDMGs.

17 MEMBER CORRADINI: (b)(5)(b) EDMGs.

18 MR. REED: Basically are the same kind
19 of strategies, if you will. Of course, I've heard
20 loss of large area is due to explosions and fires.
21 But, it made sense to move those in. So, that's why
22 we moved them in.

23 MEMBER CORRADINI: Go ahead now.

24 CHAIRMAN STETKAR: For the benefit of
25 the new members because people tend to speak with

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1 acronyms as if they're real words.

2 MR. REED: Yes, that's the damage
3 mitigation guidelines.

4 CHAIRMAN STETKAR: That's rulemaking
5 that was passed for so-called loss of large area
6 events due to fires and explosions.

7 MR. REED: Correct. It was in the power
8 reactor security rulemaking.

9 CHAIRMAN STETKAR: After 9/11, so that's
10 those types of things.

11 MR. REED: Yes.

12 MEMBER SKILLMAN: Tim and Eric, let me
13 ask you this.

14 MR. REED: Sure.

15 MEMBER SKILLMAN: Eric gave a through
16 explanation of (2)(ii) but the way I read that,
17 licensee shall address the effects of the
18 reevaluated hazard information using one or both of
19 the following approaches.

20 Here's my question, is there a bias or a
21 preference that the licensees should have? Is there
22 a preferred option or is there going to be arm
23 wrestling between industry and the NRC when a
24 licensee says, well, I'm going to us (ii) because
25 it's easier for me of the staff would say, no, we

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1 prefer (I).

2 What's the tiebreaker for (I) and (ii)?

3 MR. BOWMAN: There is not an explicit
4 preference of one or the other. It's going to be
5 very much a site specific --

6 MEMBER SKILLMAN: But, is it defensible
7 at the site?

8 MR. BOWMAN: What is defensible, what
9 makes the most sense to do?

10 For example, if a licensee had a
11 reevaluated flooding hazard that was higher than
12 their design basis flooding hazard. But,
13 nonetheless, did not come anywhere near the site
14 grade, it would be easier to protect the emergency
15 diesel generators and the electric power
16 distribution system as well as the access to the
17 ultimate heat sink and proceed as an alternate
18 mitigating strategy as opposed to changing the
19 mitigating strategies.

20 In those cases, generally, the
21 mitigating strategies under (b)(1) would work anyway
22 because, in that particular type of situation, it
23 wouldn't be challenged either by the same rise.

24 The reason that the initial part of
25 (b)(2) says use one or the other or both is because

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1 we have the two different hazards that are -- have
2 the potential of having a higher reevaluated
3 magnitude that may need to be dealt with differently
4 seismic or flooding.

5 MEMBER SKILLMAN: Thank you, okay.

6 MR. REED: Okay.

7 Then (b)(4) then is that --

8 Yes, yes, sir?

9 CHAIRMAN STETKAR: Now, I'll let you get
10 through the B slides before I ask questions.

11 MR. REED: Okay, okay.

12 (B)(4) is the integration of these three
13 different sets of mitigation strategies if you have
14 three, at least two, maybe three integration of
15 those capabilities with, emphasis on the word with,
16 the EOP's not into with, the EOPs maintain the way
17 they are.

18 Then, we support that with (b)(5),
19 sufficient staffing to support implementation
20 capabilities.

21 And, finally, six is a command and
22 control our supporting organizational structure.
23 Basically is the command and control of the direct
24 those activities.

25 And, so, this is the integrated

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1 capability paragraph in (b). Essentially, though,
2 you see the changes really were as a result of
3 moving the reevaluated hazards into (b)(2) and
4 otherwise it maintained its basic structure and all
5 of the requirements are substantially are, in fact,
6 are the same as in the proposed rule.

7 But, that's what happened and that's the
8 clarification or improvement, if you will, of the
9 final rule versus what was proposed.

10 So, I'll hold there for a second and see
11 if folks want to ask questions about (b) or any
12 aspects of (b).

13 CHAIRMAN STETKAR: Yes, I have a few
14 questions on (b). So, let's get the first one out.

15 There's quite a bit of discussion, and
16 I'll bring you back to what does loss of all AC
17 power mean? And, there's quite a bit of discussion
18 of this in the discussion and then the section by
19 section analysis.

20 It's my understanding, and tell me if
21 I'm wrong, that the current -- the staff's
22 interpretation of the current rule language is that
23 my mitigating strategies at my plant must somehow
24 address the situation where I have no AC power and
25 by implication, no DC power. Is that correct?

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1 MR. BOWMAN: That's correct.

2 CHAIRMAN STETKAR: Looking for a yes or
3 a no.

4 MR. BOWMAN: That is correct.

5 CHAIRMAN STETKAR: Okay. So --

6 MR. BOWMAN: Now, yes.

7 CHAIRMAN STETKAR: All right. The way
8 that I read everything, the way that I read the
9 Statements of Consideration for the rule language
10 and the way that I read the guidance in Reg Guide
11 1.226, seems to tell me that my -- I have to be
12 careful with words here because, obviously,
13 everybody hags on words.

14 So, my nominal mitigation strategy
15 considers a loss of all AC power but not necessarily
16 a loss of DC power.

17 So, if I call the nominal strategy FLEX
18 or FLEX for the reevaluated hazard, anything under
19 (b)(1) and (b)(2), (b)(3), I consider no AC power
20 but I can have DC power available and AC through
21 inverters. And, I'll call that my nominal strategy.

22 MR. BOWMAN: I've been calling it
23 baseline.

24 CHAIRMAN STETKAR: Yes and, I didn't
25 want to use baseline because other people talk about

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1 baseline differently.

2 MR. BOWMAN: They're all used
3 differently. But, that is essentially what it is.

4 CHAIRMAN STETKAR: We're communicating
5 that that baseline strategy. However, according to
6 my interpretation of the Statements of
7 Consideration, and the regulatory guidance, in
8 particular, Section 1.2 of Part C of the regulatory
9 guide, it says that I should have contingencies in
10 my strategies for a condition where I do not have DC
11 power.

12 It doesn't say DC power, but I do not
13 have AC power from DC sources and I do not have
14 instrumentation. Is that -- am I understanding that
15 correctly?

16 MR. BOWMAN: That is correct.

17 CHAIRMAN STETKAR: Okay.

18 MR. BOWMAN: The contingencies are laid
19 out in the industry guidance, NEI 12-06 since the
20 Revision 0 of that in Section 5.3.3.1.

21 CHAIRMAN STETKAR: Okay, good.

22 So, now, if I'm a staff --

23 MEMBER CORRADINI: Can I ask a question?

24 CHAIRMAN STETKAR: You may. You
25 certainly jump in.

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1 MEMBER CORRADINI: First, I have to get
2 your permission.

3 CHAIRMAN STETKAR: Go ahead.

4 MEMBER CORRADINI: So, is what John's
5 asking, maybe I'm misremembering, was what John's
6 asking in the order also?

7 MR. BOWMAN: Yes, it is.

8 MEMBER CORRADINI: Okay, all right.
9 Then that's my memory, sorry.

10 CHAIRMAN STETKAR: It's just the
11 understanding of this concept has been evolving over
12 time and I want to make sure I understand the
13 current snapshot of that understanding.

14 So, now, if I've got that straight in my
15 head, if I am now a member of the NRC staff who is
16 reviewing the mitigating strategies submitted by
17 Plant X, is the NRC staff reviewer going to be
18 sensitive to ensuring said mitigating strategies
19 include those contingencies? And, where is that
20 guidance for the NRC staff reviewer?

21 MR. BOWMAN: The --

22 CHAIRMAN STETKAR: Because, it's all
23 well and good to say this at a high level, but when
24 it finally comes down to it, some licensee is going
25 to be submitting, here is my mitigating strategies,

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1 please sign off on this. And, some staff reviewer
2 is going to have to do that.

3 MR. BOWMAN: The elements of it are in
4 the guidance. The -- if you look to the Appendices
5 on the BWR and PWR specific approaches for the
6 strategies and guidelines in NEI 12-06, you'll see
7 the need to have a strategy for a local manual
8 initiation and operation of the either turbine
9 driven AFW pump or RICSE or isolation condensers or
10 whatever they particular appropriate system is for
11 that licensee.

12 There are --

13 MEMBER CORRADINI: Is that the key thing
14 in the contingency? That's what I'm --

15 MR. BOWMAN: That's the major key thing
16 in the contingencies is to ensure that those systems
17 get initiated.

18 There is also a need for additional
19 guidance on the operation of things without control
20 power and development of a plant-specific reference
21 source for how to obtain certain instrument readings
22 using a portable multimeter.

23 And --

24 MR. FRANOVICH: So, this is Mike
25 Franovich and General D.

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1 Just, Eric, you might want to clarify
2 that some of these actions that the operators are
3 expected to be able to do for both the post-
4 Fukushima orders and the rulemaking are not
5 dissimilar from what was done for post-9/11
6 (b)(5)(b) type actions.

7 So, as from a regulatory perspective, we
8 have taken a look at those types of actions in the
9 field. And, of course, our audit teams do look at
10 conformance with the NEI 12-06 guidance.

11 And, of course, we've written SERs on
12 the -- and in the process of finishing writing up
13 additional SERs for the plants that are coming into
14 compliance with orders.

15 MR. BOWMAN: I was going to go in and
16 say that a lot of it had been in place under
17 (b)(5)(b) 50.54(hh)(2), but what I wanted to bring
18 up and be sure we have it on the record is that some
19 of those items don't get received in the review
20 process because they are things like looking at the
21 procedures themselves and walking through
22 performance of the procedures with staff personnel
23 which is accomplished in the oversight process
24 through the inspection program.

25 CHAIRMAN STETKAR: Well, Mike mentioned

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1 something, you said you're in the process of writing
2 SERs for plants for compliance with the order right
3 now.

4 MR. FRANOVICH: That is correct.

5 CHAIRMAN STETKAR: So, what do you
6 review when you write that SER? Do you review --
7 does someone submit their mitigating strategies
8 guidelines, they're calling them guidelines rather
9 than guidance, and the staff reviews them to make
10 sure that they meet the intent of the order? Or
11 what -- I'm looking for what level of review is
12 done.

13 MR. FRANOVICH: So, just in a nutshell,
14 the licensees do submit their overall integrated
15 plan. They did that from the get go of issuance of
16 the order.

17 And, then, they have modified those
18 plans over time as they are implementing the 12-06
19 guidance from industry.

20 Our NRC audit teams look at the
21 information provided not only in the integrated plan
22 but supporting calculations and analyses and other
23 documentation that's submitted on electronic portals
24 for the staff to review.

25 In addition to those actions, the NRC

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1 has audit teams that go out on site to close the
2 open items that the staff has flagged for follow up.

3 We may have on the order of 40, 50, 60
4 open items going into a audit. It's a one week
5 audit on site with a multi-disciplinary team of
6 about five or six people.

7 And, then, the outcome of that is to try
8 to close the open items to have better regulatory
9 assurance that the licensees will be in compliance
10 with the order when they come due for that facility.

11 And, then, we will write a final -- I'm
12 sorry, we will write or document our evaluation and
13 safety evaluation report which does include the
14 licensee providing information in a final integrated
15 plan.

16 So, that's sort of the sequence on the
17 level of review.

18 And, then, in addition to that, there is
19 a temporary instruction 191 inspection program
20 activity for post-compliance. And, that's a one
21 week team inspection on site. And, that's in
22 progress right now for sites that have come into
23 compliance with the order.

24 CHAIRMAN STETKAR: I guess what I'm --
25 what I was trying to ask, is there for these reviews

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1 and audits and maybe review is too strong a word, is
2 there anything like a standard review plan that has
3 been developed so that there's a consistent staff
4 examination of each of these submittals?

5 MR. FRANOVICH: I wouldn't go as far as
6 saying there's an SRP. Of course, there's industry
7 guidance and we have a series of white papers over
8 the course of developing 12-06, different position
9 papers were developed to identify where
10 interpretation issues might exist.

11 And, the vetting of those white papers
12 establishes some regulatory position that the staff
13 will use in its assessment of the licensee
14 preparedness to come into compliance.

15 CHAIRMAN STETKAR: Well, okay, let me
16 ask you, we now have reached some sort of, at least
17 in this part of the discussion, some sort of
18 consensus understanding on what loss of AC power
19 means both in terms of a, I'll use the word now,
20 baseline mitigating strategy and contingencies from
21 that baseline mitigating strategy.

22 How does the staff determine that my
23 mitigating strategies at my plant adequately address
24 those conditions? Loss of AC power, whatever that
25 means in my baseline strategies and that I have

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1 adequate contingencies for loss of DC power? How do
2 you make that determination?

3 MR. FRANOVICH: In short, it's through
4 the audit process.

5 CHAIRMAN STETKAR: Through the audit
6 process?

7 MR. FRANOVICH: And, confirmed through
8 the inspection program.

9 CHAIRMAN STETKAR: Okay, thank you.

10 MR. REED: Any other questions on --

11 CHAIRMAN STETKAR: Yes.

12 MR. REED: P?

13 CHAIRMAN STETKAR: Me, I'm a slow
14 writer.

15 And, bear with me because I have notes
16 scattered all over, you guys know me well enough by
17 now.

18 I have to read my notes, this is a more
19 convoluted one, so bear with me a minute.

20 Okay, in paragraph (b)(5), so, I'll read
21 it here. It says, sufficient staffing to support
22 implementation of the capabilities required by
23 paragraphs (b)(1) through (b)(3) of this section in
24 conjunction with EOPs to respond to events, that's
25 something that's required. And I get that, I

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1 understand that.

2 However, in the section by section
3 analysis for that paragraph, it says explicitly,
4 this requirement is not intended to require current
5 licensees who have performed staffing analyses to
6 support implementation of the mitigation strategies
7 order or to support implementation of the EDMGs to
8 redo the staffing analyses.

9 Does a licensee need to perform a
10 staffing analysis to support the mitigating
11 strategies required under paragraph (b)(2)?

12 MR. BOWMAN: No, the staffing --

13 CHAIRMAN STETKAR: No?

14 MR. BOWMAN: -- analysis is a -- if
15 you're speaking of the staffing analysis that was
16 laid out in NEI 12-01 --

17 CHAIRMAN STETKAR: No, no, no, I'm
18 asking you as a staff member interpreting the rule.
19 I'm not talking about NEI 12 anything, that's an
20 industry report.

21 I'm asking you whether a licensee needs
22 to perform a staffing analysis to support the
23 mitigating strategies developed under paragraph
24 (b)(2)?

25 MR. BOWMAN: They do not have to perform

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1 a staffing analysis for the mitigating strategies
2 developed under (b)(2). They have to have
3 sufficient staffing for it.

4 If you would like, I can point to how
5 they can ensure they have sufficient staffing that
6 is developed in the final stage of the validation
7 process under Appendix of NEI 12-06 where there is a
8 roll up to ensure that there has not been double
9 counting of staffing or equipment to ensure that the
10 strategies are feasible.

11 The staffing analysis as we use the term
12 staffing analysis that was accomplished for the
13 mitigating strategy order for the staffing analysis
14 that was done under the requirement that was in
15 Appendix E, Section 4.9, I think, as part of the
16 emergency preparedness enhancements rulemaking was a
17 specific style of a staffing analysis that we are
18 not requiring a reperformance of.

19 CHAIRMAN STETKAR: Okay. Let me ask you
20 then, because the rule seems really clear. It says
21 that I need to have enough staff to implement all of
22 those different types of activities.

23 So, there is something about a stylized
24 staffing analysis that I don't understand that's
25 done for (b)(1) and (b)(3) and that stylized

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1 analysis isn't necessary for (b)(2) because why?

2 MR. BOWMAN: The stylized staffing
3 analysis that is discussed in the Statement of
4 Consideration was in response to the emergency
5 preparedness portions of the Request for Information
6 that was issued on March 12th, 2012 that was a part
7 of NTTF Recommendation 9.3.

8 In response to that, licensees went
9 through and did the staffing analysis initially
10 without having had the mitigating strategies
11 completed.

12 It was done in phases. There was a
13 Phase II response to the Request for Information
14 that came in with the completion of the development
15 of the FLEX guidelines about three months prior to a
16 licensee accomplishing the coming into compliance
17 with the mitigation strategies order.

18 And, it was, again, updated to reflect
19 the lessons learned in the validation of the actual
20 procedures that they developed to doing the FLEX
21 support guidelines.

22 So, what our intent is, is that a
23 licensee will know how many staff, in the end, are
24 necessary in order to accomplish the strategies and
25 they will, through whatever administrative processes

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1 they have, ensure that their on shift staffing is
2 sufficient to perform the strategies and guidelines
3 required by (b)(1), (b)(2) and (b)(3).

4 But, we do not want them to have to go
5 back and update the staffing analysis that was done
6 either under the emergency preparedness enhancements
7 rulemaking of 2011 or the Request for Information.
8 We don't have a need for that staffing analysis to
9 be done.

10 That staffing analysis is a good
11 starting point for determining how many staff you
12 actually need on shift to initially figure out the
13 number of people that I'm going to need to do the
14 job. But, they won't really know for certain until
15 they've done the validation of the procedures and
16 they've done a roll up to ensure that they don't
17 have double counting of the staffing and taking the
18 appropriate administrative controls for whatever
19 other functions the staff has to accomplish as a
20 part of the emergency plan, et cetera.

21 MR. FRANOVICH: This is Mike Franovich,
22 JLD Director.

23 Just to add to that, part of that look
24 at operator actions also includes identifying to
25 what are called time sensitive actions and being

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1 able to evaluate the executable functions within --

2 At a lot of plants sometimes it's half
3 of the time critical time identified so as a
4 benchmark for them to be able to come to an overall
5 conclusion that they sufficient staff and capability
6 to execute the actions in the FSGs, functional
7 guidelines.

8 DR. SCHULTZ: Eric, is this what is
9 meant by the continuing statement that the staffing
10 requirement is expected to be verified through
11 drills, training analyses and other methods, is that
12 what you're referring to?

13 MR. BOWMAN: That's correct. Through
14 their normal processes, a licensee could conduct a
15 drill and figure out, you know, I can do this
16 process better if I have this many people instead of
17 this many.

18 But, I don't want to have to have the
19 licensees go through the administrative work of
20 updating a staffing analysis that was performed
21 using a specific set of guidance that was developed
22 in 2011 and 2012 that may no longer have much in the
23 way of a bearing on the licensee knowing how many
24 people --

25 DR. SCHULTZ: But, you're saying it

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1 provides a sufficient starting point?

2 MR. BOWMAN: It's a --

3 DR. SCHULTZ: For the discussion and the
4 establishment of what one needs?

5 MR. BOWMAN: It was a good starting
6 point for where we were when the orders were issued
7 and the RFIs went out into 2012. And, it's still
8 not a bad piece of information for a new applicant
9 to use when they start contemplating when I get to
10 the point of needing to have the staffing on shift.

11 This is very much like the EP staffing
12 analysis that was done for the 2011 emergency
13 preparedness enhancements rulemaking. That's a good
14 piece of information to understand how many people
15 you have to hire in order to have the appropriate
16 staffing that's appropriately trained and qualified
17 and licensed for when a new applicant would be
18 entering licensing and getting ready to enter an
19 operational stage.

20 MEMBER KIRCHNER: Just for my
21 information, is this the major component of the
22 annual estimated \$1.2 million in cost incurred? The
23 staffing that's added to comply with the rules or is
24 that continuing analyses, et cetera?

25 MR. BOWMAN: Of the continuing costs is

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1 more on the order of maintenance and replacement of
2 consumables for the equipment. The staffing, we
3 don't see that much, or I have not seen that much in
4 the way of a delta between the before staffing and
5 the after staffing as a result of the Request for
6 Information.

7 So, the short answer would be no, it's
8 not really. It's more the other stuff.

9 MR. REED: John, do you have more
10 questions?

11 CHAIRMAN STETKAR: No, that helps me.
12 My biggest concern was that I wanted to have
13 confidence that there was a process to have
14 assurance that the licensees were developing
15 alternative mitigating strategies and targeted
16 hazard whatever they're called, strategies as part
17 of the (b)(2) scope were somehow going to be held
18 accountable for the staffing.

19 Because, in principle, additional or
20 additional bodies or other skill sets might be
21 required for those types of responses compared to
22 the baseline FLEX strategies.

23 Because I just don't know, I mean, you
24 know, if I have to have 12 heavy equipment operators
25 move stuff for a particular flooding condition, I

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1 may not have anticipated that in my baseline FLEX
2 strategy.

3 MR. BOWMAN: You've got it exact right.
4 And, in the staff's view, the validation when they
5 actually go out with those 12 guys and move that
6 stuff to show that they can go out and move that
7 stuff, that'll give you a better fidelity for an
8 understanding of how many people and what types of
9 people you'd need in order to accomplish it.

10 Then, the NEI 12-01 because that's too
11 high level of a look, it didn't look at a roll up of
12 all the strategies happening at once. It just gave
13 you a look at I think it was a look at the
14 performance of two of the most complicated
15 operations at once.

16 CHAIRMAN STETKAR: I think that's all I
17 had for (b) as far as the rule is concerned.

18 MR. REILLY: Jim Reilly, again, if I can
19 make another quick statement.

20 CHAIRMAN STETKAR: Sure.

21 MR. REILLY: Regarding this congress,
22 this discussion, I'd like to point out that part of
23 the mitigating strategies assessments that are in
24 NEI 12-06 is a verification of the staffing and the
25 actions required to carry out the whatever

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1 mitigating strategies, whether it's an AMS or a
2 QHMS. So, that is part of the mitigation.

3 CHAIRMAN STETKAR: Yeah, thanks, Jim.

4 As I said, the rule language seemed
5 pretty clear to me, it was when I read the
6 Statements of Consideration is where I got a little
7 bit confused about what the staff's expectations
8 were in terms of licensee verification that they had
9 adequate strategies.

10 In particular, for those (b)(2) type
11 responses. So, that helps. Thank you.

12 Anything else members have on paragraph
13 B?

14 MR. REED: Okay, then, I'll move to
15 paragraph C.

16 And, here, we have a number of changes
17 that have occurred from the proposed final rule.

18 First, I already mentioned that we
19 discussed pretty extensively now, the fact that the
20 re-evaluated hazards is now up in (b)(2).

21 And, it was proposed in (c)(2)(I) so you
22 don't see that anymore in paragraph C, of course, as
23 it's moved.

24 And, as a result of that, because we
25 moved the reevaluated hazards up to (b)(2), now you

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1 can actually align your reasonable protection
2 requirements to whatever the proper provision is in
3 (b)(1).

4 If you were a licensee who was fortunate
5 and you have your design basis seismic and flooding
6 hazard was greater than the reevaluated hazard, then
7 you're going to be reasonably protected to (b)(1)
8 because you're external design basis as is sets the
9 level, if you will, of the phenomena you need to
10 reasonably protect against.

11 If you are unfortunate and one or both
12 of those exceeds your external seismic or flooding
13 design basis, then the reasonable protection
14 standard is set to (b)(2).

15 So, now you'll see two reasonable
16 protection standards now in (c)(2) and (c)(3) that
17 align. And, I think that's another improvement
18 because it provides a little bit more granularity in
19 that requirement of reasonable protection.

20 We also had in the proposed requirement
21 a maintenance provision in (c)(3) which we knew
22 perhaps could create confusion with the develop,
23 implement and maintain language that we already had
24 up in B.

25 Now, recall, the order says develop,

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1 implement and maintain. Our rule said develop,
2 implement and maintain. And, yet, we had a
3 maintenance provision in (c)(3) and we thought that
4 might create confusion.

5 And, in fact, people did agree it did
6 and so we removed it so that maintenance and
7 maintain, for our rule, are now aligned exactly with
8 the order and there was regulatory confusion is
9 removed in our view by removing (c)(3) as, frankly,
10 was redundant but it could create confusion as to
11 whether something was different and there was no
12 intent for it to be a different requirement. So,
13 that was the reason for removing (c)(3).

14 (C)(4), now, (c)(4) was where spent fuel
15 pool instrumentation was located in the proposed
16 rule. And, it was linked to (b)(1). It was (b)(1)
17 mitigation strategy for beyond design of external
18 events.

19 In fact, this instrumentation is used by
20 many licensees for, the Committee is probably well
21 aware, it's really, really good instrumentation and
22 licensees can make use of it for the mitigation
23 strategy for spent fuel pool.

24 However, the purposes of the EA-12-049
25 and EA-12-051, orders are separate and distinct and,

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1 as requirements, they are not the same, they are
2 separate requirements.

3 And, so, what we did is, we reserved
4 that separation and in requirement space, we moved
5 the spent fuel pool instrumentation to F so it's a
6 separate requirement.

7 Now, having said that, of course, people
8 can voluntarily, and in fact, they do, choose to use
9 this instrumentation as part of the mitigation
10 strategies, in which case, all the mitigation
11 strategy requirements apply to it just like any
12 other piece of equipment used.

13 MEMBER CORRADINI: But, can I stop you?

14 MR. REED: Does that make sense?

15 Yes, sir?

16 MEMBER CORRADINI: I think it does.

17 MR. REED: Okay.

18 MEMBER CORRADINI: But, let me just stop
19 you and make sure I get it.

20 So, you've separated because it is a
21 separate order so, now, it's --

22 MR. REED: Yes.

23 MEMBER CORRADINI: But, is my impression
24 that, given that this under the order that they were
25 doing this with whatever method they chose would

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1 automatically be part of mitigation strategies.
2 They would use something else other than this for
3 mitigation strategies? I'm confused.

4 MR. BOWMAN: The justification and the
5 purpose for the two were different. The spent fuel
6 pool instrumentation order was based on a better
7 ability to prioritize between the reactor and the
8 spent fuel pool for determining where to allocate
9 your assets in the event that you need to allocate
10 assets between them.

11 They were linked at the guidance level.
12 The guidance for the spent fuel pool instrumentation
13 order borrowed very heavily from the guidance for
14 the mitigation strategies order for the treatment of
15 the equipment for items that are not installed,
16 items that were specified in the order to have
17 certain types of seismic capability, et cetera.

18 And, the guidance for the mitigation
19 strategies order did say to use the spent fuel pool
20 instrumentation order, equipment that was installed
21 for that order.

22 But, they were linked at the requirement
23 level and that linking them at the requirement level
24 would have complications, for example, the spent
25 fuel pool instrumentation order no longer has a need

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1 to exist when a licensee has permanently defueled
2 their reactor vessel and commenced decommissioning
3 and certified that they have commenced
4 decommissioning and are no longer going to be
5 operational.

6 If we link them at the requirement
7 level, we would be changing the rules for when they
8 can -- when they are allowed to no longer maintain
9 the spent fuel pool instrumentation.

10 MEMBER CORRADINI: So, I might just stop
11 you right there.

12 So, I thought what Tim said was, they
13 have other ways to use mitigation strategies. So, I
14 understand where they could or they couldn't. But,
15 I'm not clear as to under mitigating strategies why
16 they wouldn't use this since they have it.

17 What other mechanisms do they have then?

18 MR. BOWMAN: They have the narrow range
19 spent fuel pool level --

20 MEMBER CORRADINI: And that's enough?

21 MR. BOWMAN: It's enough for a licensee
22 to get the message that they need to do something
23 for the spent fuel pool.

24 It won't tell them this is what the
25 level is. They may have to go and do something like

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1 look in the spent fuel pool and see where the level
2 is.

3 MEMBER CORRADINI: Okay.

4 MR. BOWMAN: And, typically, an FSG for
5 the spent fuel pool or an end of operating procedure
6 will look to the FSPI first. And, if that's not
7 available for some reason, have a verification by a
8 different method of monitoring the spent fuel pool
9 level is.

10 MEMBER CORRADINI: Okay. But, then, I'm
11 trying to understand your logic, but then, which of
12 the two paths require the robustness, the mitigation
13 strategy requires the robustness?

14 MR. BOWMAN: The mitigation strategies
15 order required reasonable protection of the
16 equipment and the mitigation strategies order as
17 we've incorporated it into the MBDBE rule under the
18 Commission's direction in COMSECY 14-0037 also looks
19 to the reevaluated seismic hazard.

20 The spent fuel pool instrumentation
21 order, we specified in the spent fuel pool
22 instrumentation order that they install that
23 equipment using the seismic design basis for the
24 licensed facility.

25 That doesn't get ratcheted up because of

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1 the reevaluated seismic hazards under the Request
2 for Information. What would happen --

3 MEMBER CORRADINI: So, can I --

4 MR. BOWMAN: -- effectively --

5 MEMBER CORRADINI: Well, can I give you
6 an example? You're so comprehensive, I get lost.

7 So --

8 MR. BOWMAN: That's intentional.

9 MEMBER CORRADINI: Well, you're doing a
10 hell of a job on the record.

11 So, what you're telling me is, is that I
12 can choose a pathway where I can use the narrow
13 range and putting people in there to check things
14 out. And, if that's robust enough to have the --
15 and that's robust enough to accomplish all of this
16 with reevaluation, that's fine.

17 And, I then satisfy the order with
18 something that's not robust enough to satisfy the
19 reevaluation and we're kosher? That's what I heard
20 you just say.

21 MR. REED: The regulation will allow you
22 to do something other than use spent fuel pool
23 instrumentation for mitigation strategies.

24 MR. BOWMAN: Okay.

25 MR. REED: That's because these orders

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1 are separate. So the regulation allows you to do
2 that. The way it's been implemented, of course, is
3 everybody's using the spent fuel pool
4 instrumentation, I think right.

5 MR. BOWMAN: Every licensee I've seen
6 refers to the spent fuel pool instrumentation as a
7 piece of equipment that they're relying on for their
8 strategies and guidelines for the mitigation
9 strategies order. As a result of that, because it's
10 relied on by the mitigation strategies order, they
11 have to deal with the new advisory on seismic
12 hazard.

13 MR. REED: Yeah, yeah, yeah.

14 MEMBER CORRADINI: That part I got.

15 MR. REED: So it's almost regulatory
16 purity here.

17 MEMBER CORRADINI: It's just when you
18 started the discussion, you took me off guard. But
19 I get it. Thank you, thank you.

20 MR. REED: So I'm preserving --

21 MR. BOWMAN: This is just a regulatory
22 purity exercise.

23 MR. REED: It is, and it could become
24 important.

25 MR. BOWMAN: Okay.

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1 MR. REED: Especially for a new reactor
2 or somebody else. It can become important down the
3 road.

4 MEMBER SKILLMAN: Tim and Eric, let me
5 please ask this. I guess I'd like to challenge you
6 on the removal of the maintenance provision, and I
7 would first ask what is the consequence of
8 reinserting that? Is that a huge blowback from
9 industry? Let me tell you why I assert what I'm
10 asserting.

11 Late 60's through the 70's, it took us
12 until 1988 to get the maintenance rule, maybe '89,
13 on and about there, and I was around as many of you
14 were, and there was a huge amount of pushback.
15 Industry, the licensees said you're not going to
16 tell us how to maintain our plants.

17 But I would suggest that upon
18 implementation of the maintenance rule, the number
19 of trips, the number of major equipment outages
20 dropped precipitously. The maintenance rule had a
21 way of, in my view, clarifying an awful lot of the
22 equipment problems that had been hampering the
23 industry. By being silent on this, is the rule less
24 than comprehensive as it should be?

25 Maintenance is often seen as a -- the

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1 orange-haired child, but in reality it's one of the
2 most important things we do at the sites, and the
3 maintenance programs do not have to be terribly
4 expensive or complex. They just need to make sure
5 that the equipment's able to perform its function.

6 MR. REED: I'll start, and then Eric I'm
7 sure can go into a lot of detail on this, because
8 this has come up before in internal discussions.
9 First of all, from a regulation standpoint, it will
10 not make any difference whatsoever. The
11 implementation will be the same. Eric talked about
12 the implementation, but it could create in my view
13 regulatory confusion because it has the word
14 "maintain" up there. That maintain and why you have
15 it twice and so the --

16 (Simultaneous speaking.)

17 MR. REED: --in space is exactly the
18 same --

19 MEMBER SKILLMAN: Let me push back. B
20 is "Each applicant or licensee shall develop,
21 implement and maintain and integrated response
22 capability that includes," and you don't get to
23 hardware until you get to C. So I can see that the
24 C loggers who are working at the sites would say oh,
25 that doesn't mean maintain equipment. That means

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1 maintain the capability.

2 When at least this one member of the
3 subcommittee would say if you wanted to mean
4 maintain equipment, you'd better have maintain with
5 the equipment.

6 MR. BOWMAN: You know, frankly we had
7 some input on that from some internal and external
8 stakeholders, and would have gone even further to
9 incorporating additional specificity, maintenance
10 and testing and I believe there were some other
11 words that were proposed, and the problem that we
12 saw as a staff is if we believe that that is not
13 required by the order and it has to be specified
14 differently in the rule than the order, it has an
15 opportunity to message that it was not required by
16 the order when in fact it is required by the order,
17 in the staff's opinion.

18 The staff position is that the order
19 requirement to develop, implement and maintain the
20 guidance and strategies included the maintenance and
21 testing as it is specified in the regulatory
22 guidance for it.

23 As far as the quality of the
24 maintenance, this does not scope it into the
25 maintenance rule. However, the industry guidance

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1 relies on other industry guidance that is endorsed
2 for use in meeting the maintenance rule.

3 MEMBER SKILLMAN: Okay. I was not
4 advocating -- I was not advocating pulling it into
5 the maintenance rule. I was just suggesting that by
6 not having it -- the word "maintain" connected to
7 "equipment," it gives at least this one individual,
8 me, the notion that I could slide by saying well,
9 I'm certainly maintaining the capability. But gee
10 whiz, I don't really have to worry about the
11 equipment that much because I know it's new and it's
12 good and it's in FLEX and so on and so forth.

13 When in reality you really intend for
14 that equipment to be maintained, and I would assert
15 if you intend for that equipment to be maintained,
16 what you had in Charlie 3 is probably right on the
17 money. I'd be interested in what NEI says. I'm not
18 taking a hard position here. It just seems that
19 this will be stronger, at least for the knuckle
20 draggers at the site, if you point and say hey, it
21 means you maintain your equipment there. It really
22 means that.

23 MR. BOWMAN: I got in trouble on the
24 site when I called them that, by the way.

25 MEMBER SKILLMAN: Was there pushback?

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1 MR. BOWMAN: Knuckle draggers.

2 MEMBER SKILLMAN: Oh, I'm sorry. In a
3 politically correct world, many of the maintenance
4 departments are adverse to an expansion in scope,
5 whether it's maintenance rule or not. It's a money
6 thing. I know that.

7 MR. BOWMAN: Yeah, and frankly we took
8 into account all of the input we received, and we
9 also had the Commission direction in I think it was
10 SRM SECY-11-0124, to use the high level performance-
11 based approach as it was used in B.5.b. The B.5.b
12 program, as you're aware, wound up being implemented
13 through the power reactor security requirements
14 rulemaking in 50.54(hh)(2).

15 It too has some maintenance elements in
16 the guidance that are necessary in order to maintain
17 the guidance and strategies under 50.54(hh)(2) but
18 it doesn't have an explicit requirement in the
19 regulation saying licensees must maintain the
20 equipment.

21 MR. FRANOVICH: This is Mike Franovich,
22 general lead director again. Irrespective, if it's
23 an explicit requirement of the rule or not, from an
24 inspection program standpoint we have full access
25 through the reactor oversight process to look at

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1 performance, whether it's an actual requirement or
2 an industry consensus standard that's been adopted
3 across the industry.

4 Of course NEI-1206 is such a consensus
5 standard adopted, which includes the maintenance
6 provisions citing industry practices through the
7 EPRI guidance. So if theoretically a licensee
8 elects not to do robust maintenance to maintain the
9 equipment, it will start manifesting itself in
10 failures, and our inspection program will look at
11 that and there's a regulatory risk for the licensee
12 in getting inspection findings that may be of some
13 significance.

14 So that is the performance-driven part
15 of why in some instances you may not need an
16 explicit requirement to ensure that they are
17 maintaining capabilities.

18 MEMBER SKILLMAN: Thank you.

19 CHAIRMAN STETKAR: Not surprisingly
20 enough, I have a few. Do me a favor. When you go -
21 - let me start this again here. Reset. In the
22 general discussion, I'm going to go back to
23 instrumentation here just to give you perspective,
24 in the general discussion section V.5 or whatever
25 you call that, under Equipment, there is a

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1 discussion and it transitions page 91 to 92 of my
2 version of whatever this thing is, that to me is
3 incomprehensible.

4 The particular sentence that I find
5 incomprehensible starts and says "The NRC has
6 determined that it should not be necessary for the
7 instrumentation to be designed specifically for use
8 in the mitigating strategies and guidelines, but
9 instead it would be necessary that the design and
10 associated functional performance be sufficient to
11 meet the demands for those strategies."

12 You know, I couldn't figure out what
13 that said at all. So you may not even need it up
14 there, because when I finally got to the statement
15 of considerations or the section by section analysis
16 for Section C.1, paragraph C.1 down in Section 6,
17 Section VI, I thought the discussion down there was
18 perfectly clear.

19 It says, you know, if you're going to
20 take credit for that instrumentation it has to have
21 sufficient capacity and capability to support the
22 strategy basically.

23 MR. BOWMAN: Out intent in that sentence
24 I believe was to -- the first one, the
25 incomprehensible one, I've written a few of those,

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1 was to document that it is acceptable to buy
2 commercial grade equipment and use commercial grade
3 equipment for the mitigation strategies. You don't
4 have to design a specific pump or a specific
5 generator for this application. That's what we're
6 trying to say.

7 MALE PARTICIPANT: Why didn't you say
8 that?

9 CHAIRMAN STETKAR: Well, there's an
10 orthogonal understanding to what I was trying to
11 divine from it. So read through that. I'm not even
12 sure you need it up there.

13 MR. REED: I found it in the reg basis
14 section.

15 CHAIRMAN STETKAR: If we can mark it,
16 just saying. Okay. That's a comment on text taken
17 as a rule. Now more specifically though, paragraph
18 C.1 --

19 MR. REED: Section by section?

20 CHAIRMAN STETKAR: This is of the rule.

21 MR. BOWMAN: Of the regulatory text?

22 CHAIRMAN STETKAR: The rule itself. So
23 C.1 says "The equipment relied on for the mitigating
24 strategies guidelines and event-specific approaches
25 required by paragraph (b)(1) and (b)(2) of this

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1 section must have sufficient capacity and capability
2 to perform the functions required by paragraph
3 (b)(1) and (b)(2)." What about B.3?

4 MR. BOWMAN: This goes back to what we
5 did to get B.3 in here. B.3 was moved over
6 50.54(hh)(2).

7 CHAIRMAN STETKAR: I understand that.

8 MR. BOWMAN: The regulatory level of
9 50.54(hh)(2) does not include a capacity and
10 capability requirement. That's specified at the
11 guidance level. We did not notice the proposed
12 rule, including applicability of that to the EDMGs.
13 It would get us in -- we would have problems with
14 adding B.3 to this, as well as (b)(1) and (b)(2),
15 for both the constraints that Tim discussed with the
16 Administrative Procedures Act and with backfit.

17 It would be a case of moving something
18 up from the guidance level to the requirement level,
19 without having a justification for doing so, and you
20 have the same situation --

21 CHAIRMAN STETKAR: So we're writing this
22 rule for somebody who's going to license a plant in
23 the year 2097, and somehow they're going to figure
24 out that through guidance, they have to figure out
25 what capability and capacity of their equipment for

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1 (b)(3) is because that's not specified in the rule.

2 MR. REED: Well, if anybody does build a
3 plant in that era, this also applies to the current
4 operating plants right now, and that was -- that's
5 why --

6 CHAIRMAN STETKAR: No, that's -- my
7 whole point is we're -- I don't get it. I don't --
8 from a comprehensive, consistent, easily understood,
9 technical intent, I don't get it. Why not just say
10 (b)(1) through (b)(3), the equipment that you take
11 credit for has to have sufficient capacity and
12 capability to achieve those strategies?

13 MR. REED: I'd be imposing on your
14 requirement, and I need a justification for doing
15 so.

16 MEMBER CORRADINI: Well, what does the
17 order -- what does the order say?

18 CHAIRMAN STETKAR: No, no.

19 (Simultaneous speaking.)

20 MR. BOWMAN: For the order, we included
21 capacity. I'm not sure if we included the word
22 "capability," but it not a new requirement for the
23 order. It would be a new requirement for the B.5.b
24 50.54(hh)(2), 50.155(b)(3) requirements, because it
25 is not a current requirement. It is currently at

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1 the guidance level and the staff is sensitive to
2 when we do something that would in fact be a
3 backfit.

4 MEMBER CORRADINI: So in the EDMGs,
5 these were simply guidance in terms of capacity and
6 capability?

7 MR. BOWMAN: The EDMGs, as we term them
8 in this rule, originated in the interim compensatory
9 measures for Safeguards and Security Order EA-02026
10 of 2005, and all it was was a paragraph, it was
11 paragraph B.5.b of that order, and it said "Develop,
12 implement and maintain guidance and strategies" and
13 went on from there for a few more words to relying
14 on readily available equipment and personnel to
15 maintain or restore core cooling, containment and
16 spent fuel pool cooling capabilities.

17 It did not have anything in there about
18 equipment or the capacity and capabilities of the
19 equipment, and in fact the original order that
20 included B.5.b didn't have any requirement to
21 acquire new equipment. It was just identified
22 different ways that you can approach the problem
23 with stuff you've already got on site and personnel
24 you've already got on site. In the development
25 process --

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1 MEMBER CORRADINI: The 2005 order?

2 MR. BOWMAN: The 2005 order.

3 MEMBER CORRADINI: February 25th, 2002 I
4 think, right? ICM order?

5 MR. BOWMAN: Yeah, February 25th, 2002.
6 2005 was the Phase 1 guidance document. Phase 2 and
7 3 have been in 2007 and 2008, and that's when NEI
8 06-12 came into play.

9 MEMBER CORRADINI: Which had capacities
10 and --

11 MR. BOWMAN: It to a certain extent, it
12 does not have as specific a set of guidance as there
13 is for the mitigation strategies order.

14 MEMBER CORRADINI: But okay. But if
15 memory serves me, John is better at this than I am,
16 there is consistency between the guidance in one and
17 what we see in the other, in terms of capacities and
18 capabilities?

19 MR. BOWMAN: There is some consistency.
20 We have a lot more specificity in NEI 12-06 and in
21 the interim staff guidance documents than we did in
22 NEI 06-12.

23 MEMBER CORRADINI: Thank you.

24 CHAIRMAN STETKAR: Just making notes.

25 (Off mic comments.)

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1 CHAIRMAN STETKAR: (c)(4) now -

2 MR. REED: Yeah, that's where I stopped
3 on this slide. Do you want me to start that part of
4 that slide and then I'll go to you? That was the
5 spent fuel pool instrumentation. They moved (f),
6 and we brought communications into (c)(4) after
7 that, so go ahead.

8 CHAIRMAN STETKAR: But okay. (c)(4)
9 says "Each licensee shall provide sufficient
10 communications capability, both onsite and offsite,
11 to support the implementation and mitigation
12 strategies and guidelines of paragraph (b)(1) of
13 this section." Why not (b)(1) through (b)(3)?

14 MR. BOWMAN: For similar reasons, as
15 we've got the capacity and capability in paragraph
16 (c)(3) --

17 CHAIRMAN STETKAR: Good. Why not
18 (b)((1) and (b)(2)? If you're going to play the
19 it's too much administrative burden for me card with
20 (b)(3). Why don't I need sufficient communications
21 capability to implement the mitigating strategies
22 that I develop under (b)(2), and that's all under
23 your rule?

24 MR. BOWMAN: It's a possibility.

25 MR. REED: I mean the only issue is, is

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1 if (b)(2)'s different than (b)(1). If (b)(1) is --
2 if (b)(2) becomes (b)(1), obviously you have to --

3 CHAIRMAN STETKAR: Sure. I've got 12
4 guys moving all kinds of trucks out there. We get
5 things and I don't have to be able to talk to them?

6 MR. REED: Obviously if your strategy
7 for (b)(2) becomes FLEX star then you do have it,
8 because you're really FLEX.

9 CHAIRMAN STETKAR: Yeah.

10 MR. REED: But the question is do you
11 need if you're using an event-specific approach?
12 That's the question, and it's purely a function of
13 the damage state for that event.

14 CHAIRMAN STETKAR: Take the scenario
15 that one of my alternative -- alternative mitigating
16 strategies or my targeted hazard mitigating
17 strategies is I have to have 12 people with diverse,
18 heavy equipment out there moving things around, to
19 either get stuff out of the way of a flood or to put
20 stuff in place to divert a flood or whatever. I
21 don't need to be able to talk to them?

22 MR. REED: You might be able to use your
23 own normal communications.

24 CHAIRMAN STETKAR: I might be able to,
25 but this says I don't need to demonstrate that I

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1 have sufficient communications capability.

2 MR. REED: I think, correct me if I go
3 wrong here, I mean basically what you use in event-
4 specific approaches, what -- you determine the exact
5 damage state that you're expecting. Then you use
6 all available equipment and that would include
7 communications equipment to respond to that.

8 CHAIRMAN STETKAR: And I'm not -- I'm
9 not asking you what I would do if I was the
10 licensee. I'm asking you why does the regulation
11 not tell me that I need to do that, because you told
12 me that I had to do that for (b)(1), despite the
13 fact that I know I have to do that on my own for
14 (b)(1). Even the rule told me I have to have that
15 for (b)(1).

16 MR. REED: Put it in the gray area,
17 whether it's a backfit or not. So I mean --

18 MR. FRANOVICH: Mike Franovich, JLD
19 again. We'll take a closer look at that. Our
20 intent was obviously to make communications a
21 requirement. We view that as a natural outgrowth of
22 our review, and communications is fundamental to
23 implementing and executing the mitigating strategy,
24 so we'll take a closer look at that.

25 MR. REED: I mean where I'm coming from

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1 is if your damage state is such that you don't lose
2 anything, Eric gave you a damage state where it
3 doesn't affect basically your normal shutdown
4 equipment or anything else, but is in fact greater
5 than your flooding hazard, for example. You
6 wouldn't lose anything. There's no need for any
7 additional communication, for example.

8 So what I'm saying is it would be driven
9 by the damage state itself, and if you didn't have
10 communications and the damage state said you should,
11 then it wouldn't make sense. You would have to have
12 what John's saying. See, I think that's the way it
13 should work but my -- am I getting head nods here?

14 MR. SHAMS: It's Mohamed Shams from JLD.
15 I think the way it's written with sufficient
16 communication addresses your point. Sufficient
17 could be zero. You don't need anything if the
18 damage state doesn't necessarily require it. So
19 going back to John's point, adding (b)(2) in there
20 would not necessarily get us in a backfit space,
21 because sufficient, again, could be a sliding scale
22 of the current --

23 MR. REED: A function of -- it might,
24 okay.

25 MR. BOWMAN: I don't know. Then it's

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1 saying that (c)(4) is a surplusage and it's not
2 needed at all because --

3 MR. REED: We'll have to think about it.
4 This is good feedback, John.

5 CHAIRMAN STETKAR: You moved
6 communications and I agree.

7 MR. REED: Yeah.

8 CHAIRMAN STETKAR: I mean I agree with
9 the concept. I just -- I don't know what people are
10 going to be proposing for their alternative
11 mitigating strategies or their targeted hazard
12 mitigating strategies or whatever they're called.
13 If they're getting very creative for some of them,
14 you know, requiring communications seems quite
15 reasonable. So anyway, you said you'd take it under
16 consideration. That's what I wanted.

17 MR. REED: Yeah. I think, yeah.

18 CHAIRMAN STETKAR: One more, and this
19 one -- I didn't think I was going to get any
20 pushback on those two, so we've already had some
21 discussion on this. Paragraphs (c)(2) and (c)(3), I
22 can -- I read what they say. It's basically
23 protection and equipment. (c)(2) is protection of
24 the equipment for the strategies under (b)(1), and
25 (c)(3) is protection of equipment for the strategies

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1 under (b)(2).

2 Then I go to the section by section
3 analysis or the statement of considerations, it
4 clarifies those requirements to say specifically
5 under (c)(3), that only applies to the reevaluated
6 seismic and flooding hazards, which is -- I get
7 that. Now this is -- my question comes up from a
8 nexus between the rule, the guidance and the
9 discussions we've been having about evaluating other
10 external hazards, and in particular I'll bring up
11 high winds.

12 Current guidance in regulatory guides
13 1.76 Rev 1 for tornadoes and Rev Guide 1.221 for
14 hurricanes, says that my design basis should be
15 based on wind speeds and hazards developed by wind
16 speeds that have an exceedance frequency of 10 to
17 the minus 7 per year.

18 So that's kind of current guidance, and
19 that's what new reactors are being built to and
20 what's what the staff has been examining currently
21 operating plants, to see whether or not there's a
22 need for additional regulatory action related to
23 that current understanding of high winds.

24 I get that. I mean that's part of a
25 separate discussion. When I ask the staff, there

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1 were a small number of sites, and I can't remember
2 how many and it doesn't make any difference for this
3 discussion, where there was some question about
4 whether they could meet the current design basis
5 requirements for high winds, and in particular for
6 missiles but even for direct wind loading.

7 When I asked them well gee, for those
8 sites will the FLEX equipment at least be protected
9 against those high winds, the answer was yes. Well,
10 the guidance in NEI 12-06 says that the FLEX
11 equipment has to be protected against that. Well in
12 fact the guidance in NEI 12-06 doesn't.

13 The guidance in NEI 12-06 says that I
14 have to protect my equipment against high winds,
15 winds with a speed of greater than 130 miles per
16 hour, provided that they occur more frequently than
17 10 to the minus 6 per year. That's what the
18 guidance says.

19 So NEI 12-06 doesn't protect me against
20 the design basis winds as we understand design basis
21 winds right now. So now the reason I bring it up is
22 so under paragraph (c)(2), where I have to protect
23 my FLEX equipment for my strategies, remember the
24 intent of this rule is not a seismic event or a
25 flooding event. It's any non-specified external

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1 event that can occur.

2 So I'll take a really bad storm that has
3 a lot of wind and a lot of rain. Does paragraph
4 (c)(2) require me to protect my FLEX equipment
5 against design basis winds with an exceedance
6 frequency of 10 to the minus 7 per year?

7 MEMBER CORRADINI: Why did you pick that
8 value of the exceedance?

9 CHAIRMAN STETKAR: Because 10 to the
10 minus 7 per year is specified in the regulatory
11 guides for both tornado winds and hurricane winds
12 for my current design basis. New plants have to be
13 designed to that, and part of the activities that
14 we've been discussing with the staff about
15 reevaluating other external hazards, one of their
16 Task 3 assessments is focusing specifically on those
17 winds.

18 So now if I come back to the rule, where
19 it says now I have a FLEX strategy and I have to
20 protect equipment --

21 MR. BOWMAN: The rule text uses the term
22 "design basis with the intent and meaning of
23 speaking to the design basis of the facility under
24 consideration. We are not changing the design basis
25 for plants that are currently licensed. So when you

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1 look to a document like Reg Guide 1.76 Revision 1 or
2 Reg Guide 1.221, those reg guides do not set the
3 design basis for any given plant. The license of
4 the plant sets what the design basis of that plant
5 is.

6 The reg guides do provide a good
7 indication of what the design basis would be for a
8 newly-licensed facility or an early site permit or
9 something of that nature in that same location under
10 the current regulations and guidelines and guidance.
11 But it doesn't affect what currently licensed plants
12 have for a design basis.

13 CHAIRMAN STETKAR: Good. Thanks. I've
14 got it here. I think we're going to have additional
15 discussions with the folks who are doing, looking at
16 the other external hazards, because they are saying
17 essentially, well we've got this FLEX equipment,
18 despite the fact that my plant might not be designed
19 against a 10 to the minus 7 wind.

20 Okay. Well, they're saying they've got
21 the FLEX equipment. You're saying the FLEX
22 equipment doesn't have to be designed to that 10 to
23 the minus 7. So somebody's got to get the story
24 straight. I understand from -- the rule language
25 indeed is, says "assumed for developing the design

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1 basis of the facility," and that's interpreted as
2 the current design basis, which could be a 90 mile
3 an hour wind in some places.

4 MR. BOWMAN: Whatever it is.

5 CHAIRMAN STETKAR: Whatever it is, okay.
6 So I understand it from the rule perspective. I
7 just wanted to make sure I had it and I pulsed you
8 on it, to make sure that I got it for the rule.

9 MR. SHAMS: John, this is again Mohamed
10 Shams with JLD. We'll take this John, in the
11 meeting on the Group 3 paper and we can --

12 CHAIRMAN STETKAR: Yeah because Mohamed,
13 because that Group 3 paper does in fact, and I don't
14 want to diverge too much. It does in fact in many
15 cases say well despite the fact that I, my buildings
16 may not be designed against this, I have this FLEX
17 equipment that I should be able to take credit for.

18 That's why I asked questions in that
19 meeting well, for those -- that set of plants that
20 are in sort of the gray area, will the inspections
21 of the FLEX equipment ensure that it will be able to
22 withstand those winds? The response I got was yeah,
23 the guidance in 12-06 says it has to be able to
24 withstand the wind.

25 MR. SHAMS: I believe the response was

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1 that the guidance in 12-06 does have a provision for
2 a wind up to 10 to the minus 6. Not necessarily 10
3 to the minus 7.

4 CHAIRMAN STETKAR: Yeah. I don't think
5 it said 10 to the minus 6 and that's why I had to go
6 look it up. Anyway, take it back for that. Thank
7 you.

8 MEMBER SKILLMAN: Let me ask this, Tim
9 and Eric. I didn't tumble to this until I
10 understood John's question. (c)(2) seems to point
11 only to new facilities or to new designs.

12 MR. REED: No. (c)(2) should point to
13 (b)(1). (c)(3) should point to (b)(2) hopefully.

14 MEMBER SKILLMAN: Right, yeah. So I
15 mean okay. If I'm just out in the fleet and I'm
16 reading this or am a licensing manager or director
17 out in the fleet and I look at this, could I
18 interpret that to mean oh, I'm not, I'm not
19 developing; I already have a design basis? Take
20 Ocone. It already has a design basis. You're not
21 developing it; it has one. It's already in place.

22 MR. BOWMAN: There were magnitudes of
23 the hazards that were used in developing the design
24 bases, whenever they were developed.

25 MR. REED: Exactly. Whenever they --

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1 they were probably pre-GDC-2. They were probably
2 1967 draft. So that's their -- whatever they used
3 to implement the 1967 draft version of GDC-2, that's
4 their design basis.

5 MR. BOWMAN: Now that reevaluate
6 hazard's probably greater by the way but --

7 MEMBER SKILLMAN: Okay. So just being
8 prickly, for the original development of the design
9 basis facility is what you just said --

10 MR. BOWMAN: Yes.

11 MEMBER SKILLMAN: And if that's what you
12 mean, that's what these words should say.

13 MR. BOWMAN: Well it has "assumed" in
14 the past tense for developing, that's the purpose,
15 the design basis of the facility. We'll look at it
16 but --

17 MEMBER SKILLMAN: Yeah. I mean design
18 basis is defined, you know, in 50.2, right? I mean
19 so we're using --

20 MR. BOWMAN: Yeah. I think we're good.
21 We can look at that.

22 MEMBER SKILLMAN: I'm suggesting that
23 before developing, there should be the word
24 "original."

25 MR. BOWMAN: Oh well original is --

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1 (Simultaneous speaking.)

2 CHAIRMAN STETKAR: That's whatever the
3 curve is.

4 MR. BOWMAN: No, no, no, no, because
5 some of the licenses that have variations.

6 MR. REED: It can change over time.

7 MEMBER SKILLMAN: Well, I concur with
8 that.

9 MR. REED: Yeah.

10 MEMBER SKILLMAN: I'm just saying it
11 looks to me like there can be some arm wrestling
12 around what that really means.

13 CHAIRMAN STETKAR: I'm pretty clear. I
14 think that (c)(2) applies to (b)(1). (b)(1) says
15 you have to consider -- like (b)(1) FLEX. FLEX has
16 to consider whatever the current design basis of the
17 plant is, however that was developed. But it's the
18 current design basis. (b)(2) says you must
19 reevaluate seismic and flooding and only seismic and
20 flooding?

21 MR. BOWMAN: Yes.

22 CHAIRMAN STETKAR: And (c)(2) says you
23 have to protect against that reevaluated seismic and
24 flooding hazard. Now the problem is, you know, it
25 didn't say you have to reevaluate seismic and

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1 flooding and high winds and, you know, all other.
2 It just says seismic and flooding.

3 MR. BOWMAN: And (c)(2) we might look at
4 including the words "have been" before "assumed" to
5 make it perfectly clear that it was a past tense.

6 MEMBER SKILLMAN: Yeah. That would --
7 that's what I was thinking.

8 MR. BOWMAN: We'll see.

9 MR. REED: Okay.

10 MR. BOWMAN: If it causes confusion for
11 anyone, then we probably ought to figure it out.

12 MR. REED: We think it's pretty clear,
13 but you can ask the next group of folks too, to see
14 if it's --

15 MEMBER SKILLMAN: Right.

16 CHAIRMAN STETKAR: I don't have any more
17 on C. Anybody else have anything on C? Go ahead
18 then.

19 MR. REED: Okay. (d) is actually
20 exactly the same as the proposed rule. The only
21 change you see, in fact (d) and (e) are conforming
22 changes that occurred to both these paragraphs.

23 (d) is training, (e) is drills, and the
24 conforming change results from the fact now we have
25 (b)(1), (b)(2) and (b)(3), and so you'll see those

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1 conforming changes carrying through these two
2 provisions as a rule too, whereas you need training
3 on all these strategies. You need drills for all
4 these strategies in (d) and (e).

5 So I'm really doing them both together.
6 Really, there are no substantive changes to (d) or
7 (e), and let's go to the next slide. So you can ask
8 any questions on this or the next one, or the two of
9 them together because --

10 MEMBER KIRCHNER: And at risk of
11 repeating myself from the last time you were before
12 us, the eight year requirement for the drill just
13 stretches my credulity. Why even have the
14 requirement? It's just a time span that's so long,
15 unless one can assume that in the maintenance of the
16 equipment and such, all these aspects of actually
17 deploying the equipment and the strategies are
18 exercised.

19 But eight years just doesn't make sense
20 to me. I mean that's twice an undergraduate
21 education. I don't know. Whatever metrics you
22 could use for some people.

23 MEMBER CORRADINI: And just to help,
24 just to help the new members, I think we kind of
25 churned on this one earlier. So I think you want to

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1 give them some background, because it has to fit
2 into other training, if I remember -- if I remember
3 the -- because I remember we had a long discussion
4 about that.

5 We had a number of long discussions. It
6 fits in with the emergency preparedness exercise
7 program, which is on an eight year cycle. In the
8 eight year period, they have to do the different
9 types of guidance and strategies, and the other
10 piece to it, aside from balancing and avoiding
11 displacing drills and training on things that would
12 be anticipated operational occurrences, as opposed
13 to something that is this far beyond the design
14 basis.

15 The other piece is that the paragraph
16 (d) requirement, to use the systems approach to
17 training as defined in 55.4, the systems approach to
18 training has a feedback loop so that if it's
19 necessary to have more frequent training or drills
20 on this subject matter, it would be a result of
21 going through and reevaluating the effectiveness of
22 the training program.

23 MR. REED: We also received comments on
24 both sides of the issue, and you'll see this in the
25 Significant Comments section. On the current

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1 version they're referenced on pages 40 to 41, so you
2 now -- so we're highlighting it to the Commission's
3 attention, because it's -- I mean let's face it.
4 It's a subjective decision.

5 It's a policy decision, and you're
6 trying to strike the right balance not distracting
7 folks from other training, and yet making sure
8 you're doing enough here to maintain this
9 capability. So it's really their call.

10 DR. SCHULTZ: Tim, there's another piece
11 of this that may be subtle but the biannual
12 exercises that are part of the emergency planning
13 overall approach, have the expectation that you're
14 going to into offsite releases and so forth, and all
15 of that's going to be exercised.

16 In practice, the biannual exercises are
17 going to be exercising not direct implementation of
18 FLEX, but all of the pieces that lead up to and
19 include all of the contact, all of the exercise, all
20 of the thinking that the crews are going to
21 experience in order to be sure that they're ready to
22 make the call, to bring the equipment and so on and
23 so forth. All of those things happen I expect, and
24 will happen routinely.

25 The other thing I think, if this is

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1 being done on an eight year cycle, all the licensees
2 are not going to be doing it on that eight year
3 cycle. I mean they're not going to be doing it in
4 the same year. They're going to be doing it
5 sequentially as it comes due.

6 So the facilities are going to be
7 exercised, that is the FLEX facilities are going to
8 be exercised routinely, the offsite facilities, and
9 also if there is remediation that takes place for
10 one licensee, it's going to be communicated to all
11 other licensees so it can be done.

12 MALE PARTICIPANT: Right. Very good
13 points on them.

14 DR. SCHULTZ: So I don't really look at
15 it as something that just happens every eight years.
16 For the industry it's going to be, like the
17 emergency preparedness exercises are, it's
18 continuous. It's continuous on site, and if you add
19 the exercises to the drills that the licensees are
20 doing to prepare for the exercises, it's quite a
21 commitment in itself.

22 MALE PARTICIPANT: That's a good point,
23 sir.

24 CHAIRMAN STETKAR: Anything more on (d)
25 and (e)? If not, I was going to try to push through

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1 to finish, but I see people's eyes glazing over. So
2 let's take a break until 3:30, because you still
3 have six more slides to get through. Recessed until
4 six, I'm sorry, 3:30. I'll be back at 6:30 but
5 recessed until 3:30.

6 (Laughter.)

7 (Whereupon, the above-entitled matter
8 went off the record at 3:15 p.m. and resumed at 3:33
9 p.m.)

10 CHAIRMAN STETKAR: Let's come back in
11 session. It looks like it's 6:30 at night by my
12 clock so we're back in session. I said by my clock.

13 (Off mic comments.)

14 MR. REED: Okay. I think I'm on -- I'll
15 wait to make sure I clear with John here before I do
16 that. So I did (d) and (e) together, and I think
17 I'm on (f). Am I good to go to (f)?

18 CHAIRMAN STETKAR: Yeah.

19 MR. REED: So paragraph (f) is where we
20 now have the spent fuel pool instrumentation order
21 requirements, that means the monitoring of the spent
22 fuel pools. Those, as we've already mentioned, were
23 proposed as 50.155(c)(4). They were linked
24 explicitly when the proposed rule to 50.155(b)(1).
25 We've now decoupled it and now from a regulation and

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1 purity standpoint, as we've mentioned earlier, it
2 stands alone as (f), notwithstanding the fact in
3 fact that almost everybody actually uses this part
4 of the mitigation strategies as we mentioned before,
5 which then in fact makes all the mitigation
6 strategies requirements apply to that
7 instrumentation.

8 But from a purity of regulations
9 standpoint, it's set in (f), and now it's aligned
10 with the actual, the way the orders were actually
11 issued. That's really all we were trying to
12 accomplish here. Otherwise, it hasn't changed.
13 There's nothing to change about implementation of
14 these requirements.

15 MEMBER SKILLMAN: Tim, why is there the
16 exception of the Mark III upper pools?

17 MR. BOWMAN: The Mark III upper pools,
18 currently no licensees that have upper pools are
19 allowed to store fuel in those pools when they are
20 critical. So because the spent fuel pool
21 instrumentation order was a deconflict between the
22 pool and the reactor core, there's no need for it
23 because they will never have fuel --

24 MEMBER SKILLMAN: In that location.

25 MR. BOWMAN: When they're critical.

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1 MEMBER SKILLMAN: Okay, thank you.

2 MR. BOWMAN: So there will never be an
3 opportunity to --

4 MEMBER CORRADINI: And those pools are
5 always filled with water, even though they're --
6 when, even though they're under operation, or are
7 those pools drained?

8 MR. BOWMAN: I believe they're filled
9 with water all the time.

10 MR. REED: I don't know, Phil. Do you
11 know if the containment pools are filled?

12 MALE PARTICIPANT: I don't know.

13 MALE PARTICIPANT: Maybe Phil does.

14 MR. AMWAY: Phil Amway, Exelon. There
15 are emptied of all fuel during normal operation, but
16 they would normally have water in them.

17 MEMBER CORRADINI: Water in them.
18 They're integral, though, to removing for a
19 refueling. You have to take them apart to take the
20 head off, etcetera, etcetera, right? In difference
21 to the Mark I's, which they're drained. You fill
22 them for refueling purposes and then they're
23 drained. Am I right?

24 MR. AMWAY: I'm not a Mark III expert on
25 the refueling. I'm not sure how that works.

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1 MEMBER CORRADINI: Okay, fine.

2 MR. AMWAY: I could certainly find out
3 but --

4 MEMBER CORRADINI: No, no. It was a
5 question asked of me and I didn't know the answer.
6 So since you brought it up, I thought maybe you guys
7 knew the answer.

8 MEMBER BALLINGER: What's the answer
9 again?

10 MEMBER CORRADINI: No, the water stays
11 here.

12 MEMBER BALLINGER: The water stays
13 there, okay.

14 MEMBER CORRADINI: But the configuration
15 looks the same as a Mark I or II, where you
16 essentially have to fill it, open the head. You
17 have to go through that for refueling purposes, but
18 all right, that's fine. Thank you.

19 CHAIRMAN STETKAR: I think the only
20 subtlety on them is that, and I don't know. I don't
21 know how people run their plants, but in principle I
22 think you can offload the whole core into that upper
23 pool and then do a lot of maintenance on the primary
24 system. I don't -- I don't know whether they can be
25 isolated. I suspect they can, but I don't know, so

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1 that the core may live there for longer than just a
2 normal refueling, you know, during 20 days or
3 something like that.

4 MALE PARTICIPANT: There's a side -- I
5 don't want to waste your time.

6 MALE PARTICIPANT: Phil?

7 MR. AMWAY: Phil Amway again, Exelon.
8 What I do remember when I looked through all the
9 license basis, there was a very limited storage
10 capability in those pools. It's somewhere 177 to
11 178 fuel assemblies, it's not sized --

12 CHAIRMAN STETKAR: So they can't do --
13 they can't do a full offload into it?

14 MR. AMWAY: No.

15 CHAIRMAN STETKAR: Thank you. That
16 helps a lot. I didn't know that.

17 MR. REED: That's all I plan to cover on
18 (f). I'll ask the committee if you have any more
19 questions on that portion? We can go to (g). This
20 is what we're now calling the documentation changes
21 paragraph on 50.155. As we note there, we now call
22 it that and that's a more accurate title for it.

23 It's simplified somewhat in terms of
24 combining provisions into (g)(1). So I think we
25 made a good simplification there, and we also

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1 clarified the provision that identified the other
2 change controls requirements that can come into play
3 when you're actually making changes to your
4 facility.

5 So there were lots of changes -- well,
6 there were several changes here that clarified this.
7 I think there's some -- one I want to point out a
8 little bit that's probably the most substantive
9 thing in the FRN, if you will. This is where we
10 tried to address the issue about a licensee who's
11 implementing these requirements and wants to change
12 that implementation, and is doing so but it's not
13 within endorsed guidance or an approved alternative.

14 So I put some -- we did, I should say,
15 although I certainly had a lot to do with it. On
16 page 123 and 124 of the current version, you'll see
17 those two paragraphs in there. Where I'm trying to
18 identify areas that if you step outside an approved
19 guidance.

20 Obviously if you're within guidance,
21 clearly it's an acceptable approach, and by the way
22 one of the benefits of doing Rev 3, Rev 4 of the NEI
23 12-06 and endorsing it, what that does is brings all
24 of the guidance into one place, which is very good
25 and you can use that for changes, right? Try and

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1 judge your changes and show whether they're
2 acceptable or not.

3 Of course we have approved alternatives,
4 and if you can demonstrate those approved
5 alternatives work for you, then that's certainly an
6 acceptable change under 50.155(g). That was all
7 pretty clear in the proposed rule. What we were
8 trying to do is address things that were outside
9 approved alternatives, and there I tried to talk
10 about the fact that if you're making a change in the
11 implementation of these requirements that would
12 significantly impact these functional capabilities
13 that you put in place, reminding everybody these
14 were adequate protection requirements under EA-12-
15 049.

16 These are not just new requirements for
17 adequate protection requirements, that a significant
18 reduction in those capabilities would in fact not be
19 demonstrated compliance under 50.155(g). Then I
20 think the other thing that was a little more
21 interesting perhaps was, you know, and in fact John
22 mentioned this earlier.

23 You know, we're putting in place a
24 capability for a beyond design basis external event.
25 It's not for any specific type of event. Obviously,

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1 we talked a little bit about the assumed damage
2 state and everything that went into putting this
3 capability into place. But for you to actually use
4 the real event, you need it to be flexible, it needs
5 to be adaptable, it needs to have the features the
6 FLEX has in it.

7 So that if you weren't going -- if you
8 were to go into to remove that, if you're to make a
9 less flexible, less adaptable, remove a set of
10 equipment, do something with the resource centers to
11 significantly reduce that capability which provides
12 you an indefinite capability for example, all of
13 these things would reduce the flexibility, reduce
14 that adaptability.

15 And again, these are adequate protection
16 requirements, and that would not be demonstrated
17 compliance. So what I'm trying to do is I can't
18 tell you -- I'm trying to say what it would not be
19 and close that gap down. So it was an effort to try
20 to make it a little bit clearer on what would be an
21 acceptable damage control.

22 DR. SCHULTZ: Tim, I for one would say
23 that what you added and what you've just described
24 is very important to qualitatively set out what is
25 an appropriate change and what is not. So I think

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1 that was a really good addition to the document,
2 because it addresses those things as you said, the
3 things that might be event-specific.

4 Those elements that have uncertainty
5 associated with it, it's only one of the few places
6 where uncertainty is mentioned in the document.
7 It's important to put it here, to remind anyone who
8 wants to make a change what would be acceptable and
9 what would not be acceptable. So it's a very good
10 addition I felt.

11 MR. REED: It's one of the highlights.
12 That's the one substantial difference in the SSC
13 there.

14 CHAIRMAN STETKAR: Must as I hate to
15 say, I agree with Steve.

16 DR. SCHULTZ: Is that on the record?

17 CHAIRMAN STETKAR: Yeah. That's one out
18 of like six years.

19 MR. REED: That's all I have on (g).
20 Does anybody -- any more questions on (g)? We'll go
21 to (h). Now also I'm going to make an addition to
22 this slide as we go along, because actually since
23 this slide was put out, we've actually changed the
24 regulation or we're suggesting a change to the
25 regulation. It's moving. It's a moving target, so

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1 we're into concurrence, which I'll talk about here
2 in a second.

3 So (h), we've done some things I think
4 to make (h) a lot better. First of all, we got a
5 considerable amount of feedback. We understood the
6 circumstances addressing the reevaluated hazard
7 information. So we actually asked for information.
8 understanding that, that it really did look to us
9 that it was practical, especially for the seismic
10 information frankly, to make a two-year compliance
11 date.

12 We did get some good feedback as I
13 mentioned before in our previous discussion on the
14 feedback from the public, and we put together that
15 flexible scheduling provision. I think the last
16 time we talked about it, we had it up under
17 155(b)(2). We put it back here where I think it
18 makes more sense in (h).

19 So it's in (h)(2), there you'll see that
20 and basically it's, you know, you have to show good
21 cause first of all why you can't meet the two year
22 compliance. By the way, that's not just two years
23 compliance now. That's two years compliance for
24 everybody except General Electric reactors with Mark
25 I and Mark II containments. The current version now

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1 gives them three years.

2 If you'll recall EA-13-109, that's the
3 severe accident capable vent order, was issued in
4 June of 2013, 15 months later than the first two
5 orders. They've lost a considerable amount of time.
6 I think they had a very, very good argument for why
7 they need a little bit more time. They'll be
8 working to comply with that order, EA-13-109 at the
9 same time this rule's coming out.

10 It's a classic cumulative effects
11 regulation situation. We thought it was appropriate
12 to give a little more time to address that
13 situation. So the current version allows Mark I and
14 Mark II only to get three years' compliance, and
15 everybody else is two years.

16 CHAIRMAN STETKAR: So that's the change
17 from the version that's now written into --

18 MR. REED: That's the change. Yes,
19 exactly how it is currently right now, right now so
20 literally today.

21 CHAIRMAN STETKAR: Literally today.

22 MR. REED: Yes.

23 CHAIRMAN STETKAR: Okay.

24 MR. REED: So that's the one thing
25 that's different there. Then if you can't meet

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1 that, because you know, we're talking about the
2 reevaluated hazard information. That's when you
3 would use your flexible scheduling provision and
4 first of all you have to show good cause why you
5 can't make it, and then you have to have basis for
6 the schedule and you've got to be very careful about
7 how you do that.

8 You've got to -- you've got to -- you've
9 basically got to be very clear about what you can do
10 and what you can comply with, what you're not going
11 to comply with and ensure that there's no regulatory
12 gaps, okay. No regulatory gaps is the key. We're
13 trying to structure this to make sure there is never
14 a regulatory gap.

15 (h) and (i), you've got to understand,
16 (h) and (i) have a link to each other. We're going
17 to remove the requirements, okay, at a certain
18 period, in like two years or three years, right?
19 And so we make sure that you don't remove an order
20 requirement, and then you're not in compliance with
21 the regulation. So there has to always be a
22 regulation.

23 So that's what we're assuring, we're
24 going to try to assure happens. I'm sure the
25 Commission's going to do so also, and a licensee

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1 coming in with a flexible scheduling request has to
2 make that case too as part of their flexible
3 scheduling. I don't know if you want to -- did I
4 cover that okay? Do you want to --

5 MR. BOWMAN: Yeah. In the statement of
6 considerations for the discussion of the flexible
7 scheduling and what would be good cause, we've added
8 a discussion, I'm not sure if it was in the version
9 that you have for review, but we've added a
10 discussion that a submittal should provide a
11 schedule for coming into compliance with the other
12 portions of the rule, in order to demonstrate the
13 lack of a regulatory gap, as part of the showing of
14 good cause for the acceptability of an alternate
15 compliance schedule.

16 CHAIRMAN STETKAR: Something like that
17 was in, or is in what --

18 MR. REED: I think we've made it little
19 better.

20 MR. BOWMAN: Beefed it up a little bit.

21 MR. REED: That's another change within
22 the last day. I think we're trying to clarify that
23 and make it better. This is some of the feedback
24 from the offices and also from the cumulative
25 flexible regulation meeting from last Thursday. So

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1 this is very, very recent.

2 So that's -- I think that's all I wanted
3 to cover on (h). I think we covered everything on
4 that slide. I'll just hold and wait, to see if
5 folks have any questions on (h).

6 CHAIRMAN STETKAR: You're aware of the
7 five second rule. Move on.

8 MR. REED: Okay. All right. So (i) --
9 now (i) is an interesting paragraph. What we're
10 trying to do with (i) is, and probably it's becoming
11 pretty apparent to folks, even new folks, we have a
12 lot of regulations, orders, everything that's
13 happened, not just with Fukushima. But actually by
14 moving 50.54(hh)(2) into our rule, it's actually
15 brought some of those post-9/11 orders into play.

16 So we have an awful lot of requirements
17 all over the place, and that's not a good situation
18 for a regulatory standpoint. You don't want a lot
19 of the same requirements. It can only lead to
20 confusion. They in fact are the same. So what
21 we're trying to do is I've already cleared the deck
22 and said here's one set of requirements, one set of
23 words. For all licensees they mean the same thing,
24 this is it, right?

25 So this is some of the feedback that we

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1 got to. People said there may be some confusion.
2 You've got order requirements, you've got the rule
3 requirements and we want to make sure we understand
4 what's in play. So this is our effort to try to
5 make that happen, to assure a smooth transition from
6 order environment to the rule environment, no
7 regulatory gaps, ending up with an end state with
8 one set of requirements for everybody.

9 It gets to be pretty complex if you go
10 into there and you look at the orders, and how we're
11 rescinding those showing no gaps, as well as how
12 we're going to basically deem removed, so that's an
13 administrative removal of license conditions for the
14 new reactor folks, as well as the B.5.b license
15 conditions for power reactors.

16 So there's a lot of different stuff out
17 there, all of which impose requirements, whether a
18 license, an order and now they'll be a rule and
19 there should be -- the rule should be the standard
20 for everyone. This is -- it got to be -- it's a
21 great idea. I think everybody loved it. It's
22 actually very difficult and complex actually to make
23 it happen smoothly, so starting out.

24 And in fact I want to also mention, we
25 have -- we're presuming in there, in terms of the

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1 new reactors, we're presuming the license is in
2 everything based on what we think is going to
3 happen, and we could -- in fact, that could even
4 change. We could have Turkey Point and North Anna
5 next year. This could actually change more with the
6 Commission, depending on when those decisions are
7 made.

8 So this will be something we might have
9 to work with the Commission to make sure paragraph
10 (i) is complete, depending on where those combined
11 licenses, when they get approved, where we are in
12 the process of the Commission's decision on this
13 final rule so --

14 MR. BOWMAN: And there was a
15 corresponding change in (i)(1), which is the
16 rescission of the mitigation strategy and spent fuel
17 pool instrumentation orders. We made that three
18 years after the effective date of the rule so that
19 it would maintain those orders in place until all
20 the licensees have come into compliance, that we
21 cover the Mark II and Mark I containment BWRs as
22 well, since we've proposed allowing them the
23 additional year in (h)(1).

24 MR. REED: So we just made it three
25 years. We didn't try to make it two years for PWR,

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1 three years for -- we just said three years for
2 simplicity. Okay, there's one year that might be an
3 overlap, but three years covers, gets it done. So
4 that's the current draft as it sits literally right
5 now. So that's (i). I'll hold if anybody's got
6 questions on (i). I'll give one Mississippi, two
7 Mississippi.

8 MEMBER SKILLMAN: Okay, three
9 Mississippi. You've got Virgil Summer, STP, William
10 States Lee. Why is Vogtle not included?

11 MR. BOWMAN: Because it's already --

12 MEMBER SKILLMAN: I'm listening.

13 MR. BOWMAN: For which paragraph are you
14 talking?

15 MEMBER SKILLMAN: Five, Rescission of
16 orders, removal of license conditions.

17 MR. BOWMAN: Oh.

18 MEMBER SKILLMAN: Vogtle 3 and 4, if you
19 recall, were subject to the mitigation strategies
20 order because they received their combined license
21 in time to be subject to the order. The remaining
22 licensees have license conditions that correspond to
23 the orders except for Summer 2 and 3.

24 If you look in subparagraph (i)(1),
25 there are two numbers that are listed for the spent

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1 fuel pool instrumentation order, Summer Units 2 and
2 3 received Order EA-12-063 as another version of the
3 spent fuel pool instrumentation order.

4 MEMBER SKILLMAN: Okay, thank you.

5 MR. BOWMAN: We tried to captured all of
6 them.

7 MEMBER SKILLMAN: 4, 5.

8 MR. REED: Okay. I am onto Slide 15.
9 In terms of the other requirements and changes to
10 the rule, we I think have improved and simplified
11 the new reactor application requirements, both at
12 50.34(i) -- those are the information requirements
13 if you want to, you know, send in an application for
14 a Part 50 operating license, and in 52.80(d), that's
15 for a combined -- same thing in Part 52 space for a
16 combined license, so we have simplified those.

17 Appendix E, the proposed rule had a lot
18 in there, and that is much simpler now. Basically,
19 what we have -- we are left with is two deletions,
20 if you will. We have removed the word "modem"
21 basically from the emergency response data system
22 requirements, now making that technology neural so
23 it does not reference a 30- or 40-year-old
24 technology there. Otherwise, it is essentially the
25 same requirements, so that's a cleanup really that

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1 has already been done.

2 We have moved the 50.54(hh)(2)
3 requirement for exercise, which was in E, Appendix
4 E, into 50.155(e) as a drill requirement because
5 that fits right in with mitigation strategies, and
6 that is where that fits now.

7 Staffing communications you recall was
8 proposed in Appendix E. That is now in 50.155.
9 Multiple source term dose assessment requirements
10 were proposed, and those are already implemented,
11 voluntarily implemented, in place, but we could not
12 justify those under backfitting requirements, so
13 those were removed as requirements. They remain
14 voluntary initiatives.

15 But as a result, Appendix E now becomes
16 very simple. It is just basically the movement of
17 the 50.54(hh)(2) exercise requirement into our rule
18 and literally the deletion of the word "modem," and
19 that is it. So Appendix E does not have a whole lot
20 of requirements sitting there as we did in the
21 proposed rule. That is what I mean by it's a much
22 more comprehensible rule in my view -- in my view,
23 and simplifies things for everyone. Basically, all
24 of the substantive requirements now are in one
25 place, 50.155.

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1 So the path forward here, and I bet
2 you're going to have something to say here: so we
3 have our full committee, your full committee
4 meeting, on I think the afternoon of the 30th. Am I
5 going brain dead? I think it is the -- 1:00 to
6 3:00, okay, for the full committee. Of course,
7 between this and that committee, you know, we are
8 asking for a letter on whatever it is, whatever
9 parts you can tell everyone, of course.

10 We are noting here that the JLD-ISG-
11 2012-01 -- we have mentioned this before, of course
12 -- Draft Revision 2, which is -- I think it is fair
13 to say it's virtually identically -- it is I think
14 identically the substantial same requirements as Reg
15 Guide 1.226, by the way. I think we're being
16 careful what we're saying, but I think at a 50,000-
17 foot level, they are exactly the same in terms of
18 substantive requirements. There's a lot of changes
19 occurring because you have to make it refer to my
20 rule, or our rule, 50.155 versus EA-12-049, so there
21 is some effort there.

22 And of course that is out for comments
23 right now, and that will -- that comment period will
24 end on December 12th, and so that puts us in a
25 pretty tough spot. We're going to of course

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1 immediately try to address all of that feedback as
2 we get it. We appreciate the feedback early. But
3 we'll address all that feedback as we get it. We
4 are scheduled to deliver the package to the
5 Commission on December 16th, and we are going to do
6 that.

7 (Laughter.)

8 MR. REED: We're going to try to make
9 December 2nd to the EDO mailroom, so I am looking
10 over here also. So that is -- we have a very, as I
11 am sure the committee is well aware, a very
12 demanding -- demanding schedule, and while we're
13 trying to do Office of Concurrence in five business
14 days, and so that is creating havoc right now with
15 about six or seven different offices pounding on us
16 right now at the same time.

17 But I think we are -- we are okay. I
18 think we are going to be able to, I think, do this,
19 as we are basically on track to do that.

20 I will stop right there, John. I don't
21 know if you wanted to say anything here on this.
22 You mentioned earlier about the letter. Anything --
23 you know, I am mentioning --

24 CHAIRMAN STETKAR: Yeah, we can't --
25 this is a subcommittee meeting --

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1 MR. REED: Okay.

2 CHAIRMAN STETKAR: -- so we -- we simply
3 collect information for deliberation by the --

4 MR. REED: Okay.

5 CHAIRMAN STETKAR: -- full committee
6 decides in the heat of the moment what we're going
7 to write the letter on, so --

8 MR. REED: Okay.

9 CHAIRMAN STETKAR: -- we will -- we will
10 make that determination shortly after we hear from
11 you on November 30th.

12 MR. REED: Okay. Sure.

13 CHAIRMAN STETKAR: That is all I can
14 say.

15 MR. REED: Then the last slide was a
16 backup slide that I've actually, you know, already
17 addressed, and I do not have a question slide
18 because I figured I didn't need that. You know,
19 like that last one, the question slide, in case the
20 committee doesn't ask any questions. That has never
21 happened to me in my 25 years of being in front of
22 the ACRS.

23 CHAIRMAN STETKAR: I had -- I had one
24 more thing for you, and I don't -- I saved this to
25 the end because it is not -- I wanted to get through

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1 the whole rule language.

2 MR. REED: Sure.

3 CHAIRMAN STETKAR: When I read the
4 discussion, the statement of considerations, there
5 is -- there is some discussion in there, I know you
6 struggled with should the rule address the notion of
7 n+1 capability in the context of FLEX, and I think
8 you did -- I think the statement of considerations,
9 you know, addresses that fine.

10 The one place that I stumbled over, and
11 a place that might help you out, is in the section-
12 by-section analysis, Section 6, where you are
13 discussing Paragraphs (c)(2) and (c)(3). I'll give
14 you the quote so that you have it so you can find it
15 in the text, and it's a long sentence,
16 unfortunately.

17 It says "The NRC use of the phrase
18 'reasonable protection' in Section 5155(c)(2) and
19 5155(c)(3)" -- you got it?

20 MR. REED: Yes.

21 CHAIRMAN STETKAR: -- "is intended to
22 distinguish the protection of GDC 2," et cetera, et
23 cetera, et cetera. The end of that sentence, it
24 says "which allow damage to or loss of specific
25 pieces of equipment so long as the capability to use

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1 some of the equipment to accomplish its intended
2 function is retained."

3 I found that to be somewhat lacking, and
4 I was wondering if you could reinforce the notion of
5 n without saying n by saying something like "which
6 allow damage to or loss of specific pieces of
7 equipment so long as sufficient equipment remains
8 available to accomplish the intended mitigation
9 functions for all affected units at the site." That
10 still does not say n, but basically, it says you
11 still have to have n.

12 MR. REED: Okay.

13 CHAIRMAN STETKAR: Think -- think --

14 MR. REED: Okay.

15 CHAIRMAN STETKAR: -- about it. The
16 whole notion of some equipment --

17 MR. REED: Yeah, I got --

18 CHAIRMAN STETKAR: -- available --

19 MR. REED: -- you.

20 CHAIRMAN STETKAR: -- does not sound all
21 that good, and I knew you were struggling with not
22 trying to be specific about n or n+1 or --

23 MR. REED: Right, thank you.

24 CHAIRMAN STETKAR: -- n+2 or whatever.

25 MR. REED: Yes, I understand that.

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1 CHAIRMAN STETKAR: Anything else at all
2 for the staff?

3 MR. BOWMAN: I mentioned during the
4 break, but I will just -- to cover it now, I believe
5 we have already discussed the topics that would have
6 been under update on changes to the Reg Guides at
7 the beginning of the discussions when you brought it
8 up, so I don't plan to say anything more on it, but
9 I am open to any questions on that as well.

10 CHAIRMAN STETKAR: There were not any
11 other changes of substance to 1.226, were there?

12 MR. BOWMAN: Neither -- no more changes
13 to date to 1.226. Depending on the content of the
14 comments we receive on the ISG --

15 CHAIRMAN STETKAR: Yes.

16 MR. BOWMAN: -- we will, and 1.227 and
17 1.228 have not had any substantive changes.

18 CHAIRMAN STETKAR: Okay. Thank you.
19 Anything else for the staff?

20 (No audible response.)

21 CHAIRMAN STETKAR: If not, thanks a lot.
22 Good rundown, again. The only thing I will caution
23 you is that we need something that is cast in stone.
24 It does not have to be cast in stone for you, but we
25 need something that we will write a letter against,

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1 so we need a -- some sort of frozen-dated document
2 such that we will be able to write a letter.

3 Normally, I would say we -- we have to
4 deal with what we have on hand right now, but if we
5 can freeze that as of today or tomorrow, that would
6 be good, because we cannot wait until two days
7 before the full committee meeting and say please
8 take a look at -- at this whole package. It is not
9 fair.

10 MEMBER BROWN: Are you talking about
11 like the FRN that has the rule --

12 CHAIRMAN STETKAR: Right.

13 MEMBER BROWN: -- and you would --

14 CHAIRMAN STETKAR: Yes.

15 MEMBER BROWN: That is what I was
16 thinking, not any of the other stuff that -- that's
17 the document to grab onto because it is the rule
18 that we're doing --

19 CHAIRMAN STETKAR: Yes.

20 MEMBER BROWN: -- okay. All right.
21 Thank you, just wanted to make sure I --

22 CHAIRMAN STETKAR: But again, as a full
23 committee, in principle, we are addressing the rule
24 and the three Reg Guides because they are -- they
25 are being sent up as a package, and -- and in fact

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1 the non-concurrences are going to be attached to
2 them, right? I don't know how that is going to
3 work.

4 MR. FRANOVICH: So Mike Franovich again.
5 I think it's a very reasonable request. It is
6 somewhat evolving because it is going through
7 concurrence process now, so that's where I need to
8 confer with --

9 CHAIRMAN STETKAR: Work --

10 MR. FRANOVICH: -- Tim --

11 CHAIRMAN STETKAR: Work --

12 MEMBER BROWN: -- and Eric to see --

13 CHAIRMAN STETKAR: Work with --

14 MR. FRANOVICH: -- what the current --

15 CHAIRMAN STETKAR: -- Mike Snodderly
16 please --

17 MR. FRANOVICH: Definitely.

18 CHAIRMAN STETKAR: -- and get us a
19 frozen version because it is now about two weeks
20 until we need it.

21 MR. FRANOVICH: Okay. Fair enough.

22 CHAIRMAN STETKAR: And with that, we'll
23 let the staff off the hook. I understand the next
24 on our agenda is one of the non-concurrence teams,
25 we'll call them, has requested a time, some time to

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1 brief the subcommittee on the substance of their
2 non-concurrence, so we will ask them to come up and
3 let us know what they are concerned about.

4 (Pause.)

5 MS. ROSENBERG: Good afternoon. I am --

6 CHAIRMAN STETKAR: Stacy, turn your mic
7 on when you speak.

8 MS. ROSENBERG: Thank you.

9 CHAIRMAN STETKAR: And then --

10 MS. ROSENBERG: Okay.

11 CHAIRMAN STETKAR: -- you are heard.
12 Thank you.

13 MS. ROSENBERG: I am Stacy Rosenberg. I
14 am the Branch Chief of the PRA Licensing Branch in
15 NRR in the Division of Risk Assessment. This is
16 Sara Lyons, who is in the branch, and we want to
17 thank you for the opportunity to provide our views
18 regarding the draft guidance JLD-ISG-2012-01 Rev 2,
19 Revision 2.

20 The agency has successfully leveraged
21 risk information in several significant programs
22 since the 1980s, including the Maintenance Rule and
23 the issuance of several risk-informed Regulatory
24 Guides. The draft JLD-ISG-2012-01 proposes to
25 endorse NEI guidance, which we believe runs counter

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1 to our well-established processes for risk-informed
2 decision-making.

3 Specifically, the proposed methodology
4 does not appropriately consider the five principles
5 of risk-informed decision-making, which include that
6 the proposed change meets the current regulations;
7 the proposed change is consistent with a defense in
8 depth philosophy; maintains sufficient safety
9 margins; and that when the proposed change results
10 in an increase in risk, it is acceptably small and
11 consistent with the intent of the Commission's
12 Safety Goal Policy Statement; and that the impact of
13 the change is monitored using performance
14 measurement strategies.

15 So Sara Lyons is going to discuss the
16 issues in more detail.

17 MEMBER BLEY: Can I ask you a question
18 right at the beginning?

19 MS. ROSENBERG: Sure, sure.

20 MEMBER BLEY: As you state in your work,
21 Reg Guide 1.174 is laid out to look at suggested
22 design changes --

23 MS. ROSENBERG: Right.

24 MEMBER BLEY: -- and to evaluate them.

25 MS. ROSENBERG: Right.

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1 MEMBER BLEY: Here, we are not doing
2 that. We have a plant that was designed and
3 licensed, and they already have a complete PRA,
4 including a seismic PRA, includes generally
5 substantial defense in depth in that design that was
6 reviewed when it was built. And we are asking,
7 given what we see from the seismic PRA, do we really
8 need to have additional capability for mitigating
9 strategies? At least, that is the way I look at it.

10 How do you reconcile those two things?
11 I did not think you did in the documents, so I am
12 curious about it.

13 MS. ROSENBERG: Well, because we are
14 adding -- there is a new rule being added, and so --

15 MEMBER BLEY: It's not a design change.

16 MS. ROSENBERG: Right, it is not a
17 design change. These are -- I think these are our
18 principles of risk-informed decision-making, and so,
19 you know, I think we'll get into that in more detail
20 when we go through this --

21 MEMBER BLEY: Go ahead.

22 MS. ROSENBERG: -- and if you have a
23 specific question at that time, maybe we can answer
24 it there, in that way. Sara?

25 MS. LYONS: Okay. First, thanks for

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1 giving us the opportunity to discuss this issue. I
2 know Stacy and I have spent a lot of time on it, as
3 well as some other staff in DRA, and we appreciate
4 the opportunity to discuss it, and any insights that
5 you can offer to our perspective would definitely be
6 appreciated.

7 As Stacy mentioned, the five principles
8 of risk-informed decision-making have provided a
9 foundation for the use of risk information in
10 numerous regulatory activities. These principles
11 have guided the staff in defining risk-informed
12 rather than risk-based processes.

13 The order EA-12-049 discusses that the
14 NRC is requiring additional defense in depth
15 measures to address the uncertainties associated
16 with beyond design basis external events so that the
17 NRC can continue to have reasonable assurance of
18 adequate protection of public health and safety and
19 mitigating the consequences of a beyond design basis
20 external event.

21 Because the expected requirements are
22 defense in depth measures that the Commission is
23 expected to determine are necessary to provide
24 reasonable assurance of adequate protection, we feel
25 that it is not appropriate to borrow concepts which

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1 assess the calculated risk impact to justify non-
2 compliance. Doing so would be -- would not be
3 consistent with our established processes, would not
4 address the uncertainties associated with the beyond
5 design basis external event, and would not determine
6 whether the plant has the capacity to mitigate the
7 consequences of a reevaluated seismic event.

8 However, the NEI guidance NEI-12-06
9 Revision 3 Appendix H, and in particular Section
10 H.4.5, appears to borrow concepts from the
11 evaluation of risk impact guidance and Regulatory
12 Guide 1.174, with deletions and adjustments to do
13 exactly that.

14 The framework used to define the new
15 requirements and how they provide an acceptable
16 method of meeting what we're expecting to be the
17 Commission's requirement with the rule are not clear
18 and do not appear to be justified. Due to this
19 disconnect, it is possible that a plant will meet
20 the acceptance criteria without being reasonably
21 protected, a to-be-defined term, against the
22 reevaluated seismic hazard.

23 As the subcommittee heard last month,
24 the guidance in NEI-12-06 Appendix H for plant --
25 sorry, Path 5 plants proposes to provide a method to

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1 meet the expected requirements to confirm that the
2 FLEX strategies can be implemented, considering the
3 impacts of the mitigating strategies seismic hazard
4 information, or what I will refer to as the
5 reevaluated seismic hazard, to develop and implement
6 modifications necessary to ensure the FLEX
7 strategies are able to address the reevaluated
8 seismic hazard or develop and implement the
9 alternative mitigating strategies that are able to
10 address the reevaluated seismic hazard.

11 We agree with -- with the expected
12 requirements that NEI laid out in their guidance, as
13 listed here. However, the NEI guidance proposes
14 risk criteria which do not provide a meaningful
15 indication of whether the plant meets these expected
16 requirements. Instead, the methodology proposes to
17 screen plants that have a seismic CDF and seismic
18 LRF that is less than $5e-5$ and $5e-6$ per year
19 respectively from meeting the requirements, despite
20 the considerable uncertainty in these estimates.
21 This essentially creates a new risk-based metric for
22 determining whether the expected Commission
23 requirements need to be complied with.

24 Plants which cannot meet this screen are
25 evaluated against a partitioned delta risk

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1 threshold, which seems to be loosely based on select
2 principles of Regulatory Guide 1.174. This aspect
3 of the proposal has similar issues in that it does
4 not appear to clearly delineate whether or not the
5 expected Commission requirements will be met.

6 Our approval of this approach from our
7 perspective would both undermine the existing risk-
8 informed framework and set a precedent that may be -
9 - have further implications in the future. This
10 might be a good time to talk about your question.

11 MEMBER CORRADINI: So you are going to
12 explain the second bullet?

13 MS. LYONS: The acceptance criteria?

14 MEMBER CORRADINI: Yes.

15 MS. LYONS: Well, I mean, that was in
16 the NEI guidance. That is how they are proposing to
17 screen the plants.

18 MEMBER CORRADINI: But there is
19 something about it that you don't like. I am trying
20 to struggle as to what it is.

21 MS. LYONS: Yes, I mean, from my
22 perspective, the closest parallel that we have is
23 like the -- the requirements for containment
24 performance. So a lot of times, we will talk about
25 an acceptable condition will have a containment

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1 failure probability of 0.1 --

2 MEMBER CORRADINI: Right.

3 MS. LYONS: -- given you have core
4 damage, your containment is expected to survive 90
5 percent of the time.

6 MEMBER CORRADINI: Right.

7 MS. LYONS: That is a good metric to me
8 because it is taking the uncertainty, or any kind of
9 evaluation as far as how often you would have core
10 damage, out of the equation. So here -- and we will
11 propose it, and if you had a chance to read the non-
12 concurrence, we proposed it there -- I think it is
13 more appropriate to look at a conditional type of
14 risk metric if we are going to use risk metrics for
15 this because it directly speaks to the goal, to the
16 objective and the expected Commission requirements,
17 where, to me, a seismic CDF value -- and I mean, I
18 tried to backtrack these values back to what I
19 thought the performance would be to see if we could
20 conclusively say on a grand scale for all plants
21 that they would still meet something that we might
22 call reasonable protection, and I couldn't do it.
23 So that is why, you know, we ended up here.

24 I didn't see any calculation like that
25 with the guidance from NEI. If someone else has

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1 something like that, I think that would definitely
2 be helpful, but we just couldn't get there. So to
3 me, this is -- the seismic CDF value, they are
4 taking the hazard information for their site, which,
5 for, you know, a beyond design basis event, the
6 frequency is going to be fairly low -- as, you know,
7 obviously, right, that is why they were not designed
8 that way -- and convolving it with their fragility
9 information that they did for all of their
10 components at their site.

11 And so that whole process includes the
12 uncertainty that we are trying to get away from with
13 this requirement in the first place. The Commission
14 said that they wanted to have this additional
15 defense in depth requirement to help address
16 uncertainties with our understanding of seismic
17 hazard in the first place. By doing a calculation
18 that includes the seismic hazard or our current
19 understanding of the seismic hazard, it is going to
20 be a fairly low number because the frequencies are
21 low.

22 The frequencies might be -- at the
23 reevaluated hazard might be around $5e-5$ per year, so
24 it is the initiating event. So I just couldn't
25 reconcile how having a seismic CDF screening value

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1 of 5e-5 could tell you conclusively that you have
2 reasonable protection.

3 MS. ROSENBERG: Which has considerable
4 uncertainty in and of itself.

5 MEMBER KIRCHNER: Yes. May I ask a
6 follow up on Mike's question? Would you walk
7 through this second bullet, explain it, and then
8 you're seeming to imply that what is proposed does
9 not meet the Commission's goals, so I would like you
10 to go through that a little more rigorously and
11 methodically. So I didn't have access to the
12 letter, I am afraid, but could you give the short
13 version of what all this means versus the
14 Commission's stated goals?

15 MS. LYONS: I guess I should have put
16 the NEI flow chart in here too. So the screening --
17 you know, when you set up a framework for risk,
18 risk-informed decision-making, you usually start
19 with, you know, your base goal. In Reg Guide 1.174,
20 we looked at the safety goal, subsidiary goal --
21 subsidiary goal of core damage less than 1e-4, and
22 then the acceptance criteria is all based on that.

23 In this situation, the goal is, if you
24 have -- to my understanding of the goal and what I
25 read here with what NEI wrote also is if you have a

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1 seismic event at the level of the reevaluated
2 hazard, we want to have some assurance that the
3 plant is going to be okay. It might be an
4 alternative mitigating strategy, it might be FLEX,
5 but whatever it is, we want some kind of assurance
6 that the plant will survive that.

7 MEMBER CORRADINI: So just to -- just
8 stop you there. But maybe I am -- I am -- again, my
9 colleagues over here will kind of shake their head,
10 but isn't the factor of 10 between the initiating
11 event and the large early release that delta you are
12 looking for? Am I missing something? You are
13 saying -- you are saying that the level -- the level
14 of the initiating event is too high, or you are
15 saying given the initiating event, you cannot get to
16 the protection for the large early release? Because
17 I interpret this to be that factor of 10 that you
18 were talking about for containment performance.

19 MS. LYONS: That's a factor of 10 for
20 containment performance.

21 MS. ROSENBERG: Not for core damage.

22 MS. LYONS: That is true, but not for
23 the requirement that we are trying to evaluate here.
24 We typically use a factor of 10 between CDF and LRF
25 because of the containment performance requirements

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1 --

2 MEMBER CORRADINI: Right.

3 MS. LYONS: -- but maybe there are
4 requirements.

5 MEMBER CORRADINI: Okay. But go ahead,
6 then. So the absolute -- the value of the 5×10^{-5}
7 seems too high. That is what --

8 (Simultaneous speaking.)

9 MS. LYONS: Yeah, I think it is probably
10 too high, because I couldn't back out a plant that
11 would be reasonably protected. Now, in the non-
12 concurrence we wrote the initiating event frequency
13 would be around 5×10^{-5} for the reevaluated hazard.

14 MEMBER KIRCHNER: Pardon me for
15 interrupting.

16 MS. LYONS: Okay.

17 MEMBER KIRCHNER: Again, I align with
18 Mike. We are dealing with low probability or
19 frequency events to begin with.

20 MS. LYONS: Right.

21 MEMBER KIRCHNER: The 1×10^{-5} and
22 1×10^{-6} is more in -- before you get to these
23 beyond design basis accidents, so I am a little -- I
24 am struggling with why you find these numbers too
25 high for this --

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1 MS. LYONS: Okay.

2 MEMBER KIRCHNER: -- kind of series of -
3 -

4 MS. LYONS: I think --

5 MEMBER KIRCHNER: -- of events.

6 MS. LYONS: For, are you talking about
7 the second sub-bullet or the first sub-bullet?

8 PARTICIPANT: Well --

9 MEMBER KIRCHNER: The first sub-bullet
10 to start, and if you would explain the second and
11 third, that would be useful also.

12 MS. LYONS: Okay. So -- so I'll tell
13 you what I did for the first sub-bullet.

14 PARTICIPANT: Yes.

15 MS. LYONS: And it was definitely a
16 little bit simplistic, but, you know, when we are
17 looking at something that would work for all plants
18 and that we can do without the plant-specific
19 information that like licensees would have, I think
20 that was kind of where we were.

21 So for the first sub-bullet with the
22 screening value of seismic CDF less than $5e-5$ per
23 year, so let's just talk about that one. If you
24 look at what the hazards folks did for the
25 reevaluated hazard and try to understand what the

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1 initiating event frequency for what is called the
2 reevaluated hazard and how it was defined.

3 They vary depending on the site, but an
4 initiating event frequency that seemed
5 representative on my look of that information was
6 around $5e-5$ per year, so -- so at the reevaluated
7 hazard, if all of those plants went straight to core
8 damage, if they experienced that reevaluated hazard,
9 they would have a seismic CDF of $5e-5$.

10 That is not practical. They -- there
11 are contributions to their risk from other parts,
12 but we cannot really speak to what that would be
13 without looking at more detail of their specific
14 plant information.

15 MEMBER RICCARDELLA: But the seismic PRA
16 considers more than just the GMRS. It considers all
17 of the various hazards. So when you get to much
18 lower-frequency events, you've got a higher
19 conditional probability of failure, right?

20 MS. LYONS: Right.

21 MEMBER RICCARDELLA: And you have
22 integrated all of those to come up with the seismic
23 --

24 MS. LYONS: Yes. So if you had the
25 seismic PRA for all the plants, you could back out a

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1 number like this that made sense and would be
2 reasonable protection.

3 MEMBER RICCARDELLA: Well --

4 MS. LYONS: I don't know if 5e-5 would
5 be that value. I could not get information that
6 would support that number.

7 MEMBER RICCARDELLA: I thought the NEI
8 guidance said that in order to apply this, you have
9 to have submitted your seismic PRA to -- and had it
10 approved.

11 MS. LYONS: That is true.

12 MEMBER CORRADINI: So let me try another
13 swing at this because some of you guys understand
14 it. I am still not anywhere close.

15 I was under the -- are you talking
16 mainly the Path 5 approach or the overall
17 quantitative values to even do any screen? Am I --

18 MS. LYONS: I mean, if the screening
19 value was something smaller, I think we would have
20 been able to, even on a general basis, back out a
21 number that we might call reasonable protection.

22 MEMBER CORRADINI: So let me try it back
23 at you so I get your point. Your point is that the
24 value is too high, and therefore, any design basis
25 event would cause immediate direction to core

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1 damage, and you are looking for some margin, and
2 there is no margin in this number? That is what I
3 think you are telling me. Am I understanding
4 correctly?

5 MS. LYONS: Well, I mean, you would have
6 to have margin to meet the requirement because the
7 requirement is saying that you must have margin of
8 the reevaluated hazard. I just do not think that
9 screening value gives you any indication of whether
10 you have that margin or not. The seismic PRA would,
11 if we had all of that information in front of us, it
12 would, but that is not the process that was
13 proposed.

14 MEMBER RICCARDELLA: I thought I read
15 the guidance to say that in order to follow this,
16 you have to have a submitted and approved seismic
17 PRA.

18 MS. LYONS: You would, but that is not
19 the information -- we would not be looking, delving
20 into their seismic PRA to make this decision. The
21 decision based on their flow chart was going to be
22 made on this screening number. You are right that
23 the seismic PRA will have a lot of very useful
24 information, and with that information, we could
25 make the determination.

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1 MEMBER RICCARDELLA: What is the
2 uncertainty, then?

3 MEMBER BROWN: I am one of the other
4 bottom feeders on risk, okay, being an electrical
5 guy, and when you say the number $5e-5$ is too large -
6 - is that what you said -- you're looking for a
7 number that's smaller as a screening. In other
8 words, into the $10^{(-6)}$ range or something like
9 that, is that -- for CDF? I am trying to calibrate
10 myself in terms of making sure I know what you mean
11 by large and smaller. I think smaller means more
12 zeroes out to the decimal point.

13 MS. LYONS: Yes.

14 MEMBER BROWN: So instead of 5 -- if
15 they said, hey, use $5e-6$ or $5e-7$ as the screening
16 criteria, you would have said hey, I have a more
17 acceptable way of approaching this and determining
18 how -- where I go in terms of demonstrating that I
19 am okay --

20 MS. LYONS: Right --

21 MEMBER BROWN: -- under these --

22 MS. LYONS: -- yeah, I mean --

23 MEMBER BROWN: -- circumstances.

24 MS. LYONS: -- we would have been able
25 to back out what level of protection the plant would

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1 have had to have at that lower value --

2 MEMBER BROWN: Okay.

3 MS. LYONS: -- and how it would have
4 told you that you had maybe reasonable protection.

5 MEMBER BROWN: All right. So higher
6 numbers make it more difficult to do that? I can't
7 -- my head explodes just thinking about numbers
8 popping around, so that's why I wanted to ask it in
9 this more mundane, blacksmith's technology brain of
10 mine. And then I -- after that, the other thing is
11 -- the other delta would fall out from a different -
12 - if you had a higher -- I mean, excuse me, a lower
13 -- lower screening values, that those would come out
14 to be different, right? I mean, would you still
15 have less than --

16 MS. LYONS: Well --

17 MEMBER BROWN: -- $1e-5$ for the delta CDF
18 and loss of ultimate heat sink, or would those
19 numbers stay the same, but the other line would be a
20 smaller

21 --

22 MS. LYONS: I think --

23 MEMBER BROWN: -- factor --

24 MS. ROSENBERG: Well, if you look at the
25 -- if you look at the guidance, confirm the FLEX

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1 strategies can be implemented considering the
2 impacts. With a number like 5e-5, I am not sure that
3 that would be met.

4 MEMBER BROWN: Okay. I got that. So
5 you think it should --

6 MS. ROSENBERG: Okay.

7 MEMBER BROWN: -- a -- if you are going
8 to screen, it ought to be 5e-6 or 1e-6 or something,
9 something smaller in order to use your screening
10 criteria? And I am --

11 MS. ROSENBERG: Yes.

12 MEMBER BROWN: -- going to take your
13 word on that because you just exceeded my ability to
14 integrate the information and understand how you
15 developed the rest of it, but that part I understand
16 your point.

17 MEMBER BLEY: I am going to come back to
18 where I started. I was hoping you would take what I
19 asked you as an entree, to say -- and we've had
20 people come here and say, oh, we can only refer to
21 1.174 if we're looking at a design change. Well,
22 the principles in 1.174 are much more general than
23 that. I was hoping you would say that.

24 A couple of things about this --

25 MS. LYONS: Yes, that is -- well, that

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1 is what we think.

2 MEMBER BLEY: A couple of things about
3 this: when it was presented to us earlier, I made an
4 assumption that Mr. Stetkar has pointed out to me is
5 not true, but I first kind of objected to the
6 overall view of the Figure H-4 you refer to, saying
7 you can only use the probabilistic -- the risk-
8 informed approach if the -- the seismic core damage
9 frequency is low enough. It said, well, usually,
10 this is the way we go if we wanted it more deeply.
11 And it said, well, we want to force people to do the
12 -- the deterministic path that is high, which I
13 didn't quite buy into.

14 When I came to this flip box where you
15 have trouble with the criteria, I had read it as you
16 took the branch if that calculation was realized
17 without FLEX being considered in that option, so
18 that if you -- if you -- you took that criteria and
19 said, okay, I don't have to do the rest of the risk-
20 informed calculations, you would still have the FLEX
21 there.

22 But John pointed out that the words say
23 that calculation is done with or without credit for
24 FLEX, which is a little tough for me. I guess where
25 I would fall down in this whole thing is I would

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1 kind of agree with you, except I don't see any
2 reason for a screening criteria. We have done the
3 seismic PRA. We had to have done regular PRA. We
4 ought to know the baseline risk, which I think you
5 said we don't know. But if you're going to take the
6 risk-informed approach, there should not be a
7 screen. You ought to take the risk-informed
8 approach, go in and evaluate how your FLEX equipment
9 does, how your strategy does, and look at the
10 deltas, and also look at the criteria that are in
11 1.174.

12 MS. LYONS: Yeah.

13 MEMBER BLEY: And that makes more sense
14 to me, so I kind of understand the arguments you
15 made, but you came at it in a way that did not
16 resonate with me directly.

17 Anyway, thank you for bringing all this
18 to our attention, and I am sorry I misread several
19 things the last time around when we looked at this.

20 CHAIRMAN STETKAR: And honestly, so did
21 I, so it got me thinking about this also.

22 You have one more slide. We have to be
23 cognizant of the time here --

24 MS. LYONS: Okay.

25 CHAIRMAN STETKAR: -- so I --

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1 MS. LYONS: Can I go through it real
2 quickly?

3 CHAIRMAN STETKAR: Oh yes.

4 MS. LYONS: Okay.

5 CHAIRMAN STETKAR: Please.

6 MS. LYONS: Okay. Yes, I agree. If
7 there wasn't a screening criteria, that might be a
8 better way. I still don't think -- I still struggle
9 with the deltas and the tie that the deltas would
10 have, even if the numeric value was different, to
11 the actual requirements. So instead of that, we
12 were proposing that -- let's see -- that a -- an
13 alternative methodology that looks at the
14 conditional core damage probability, because once
15 you have the full seismic PRA, this information is
16 rather easy to get.

17 Impacts -- I was just at an observation
18 of a seismic PRA peer review just a couple weeks
19 ago, and looking through their documentation, they
20 had a chart such as this already in there that had
21 the evaluation of the conditional core damage
22 probability at all hazards for their -- for their
23 PGA, so you could pull off an actual number of what
24 we might call reasonable protection, be that 90
25 percent reliability, like containment uses, or

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1 something else.

2 For this -- for this approach to be
3 successful, I think a numerical definition of
4 reasonable protection would be needed up front, and
5 any additional considerations would be identified by
6 the group that worked on it. For example, I would
7 imagine that, you know, with all the work that has
8 gone into mitigating strategies, that the -- the
9 plants have a considerable amount of margin in
10 addition to what the plant already had, so they --
11 they probably have several success paths included in
12 their primary and alternate FLEX path as well as any
13 additional capacity that the permanently installed
14 equipment has at the plant, even though it was not
15 designed for the reevaluated hazard, and they would
16 be able to credit that by pulling the appropriate
17 information out of their seismic PRA.

18 MEMBER BLEY: And one thing you could
19 point to is there was an awful lot of work 20 years
20 ago, maybe a little more, looking at this
21 possibility, is there a cliff edge effect with
22 seismic? And a lot of plants were studied, and it
23 was looked at pretty hard by a lot of people, and it
24 became pretty clear no such thing exists. I mean,
25 we see it for floods. We do not see it for seismic.

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1 And that would be a helpful anchor point for us.

2 I -- you know, reading your words leaves
3 me a little uncomfortable because it implies we
4 built these plants without defense in depth thinking
5 in -- in the design, and I think we did a lot of
6 that, so it feels a little heavy-handed on that
7 side. So I think on many of the things you have in
8 this chart, which are a lot of them from the
9 criteria in 1.174, I think there are arguments that
10 could be made -- some in general, some would have to
11 be done on a plant-specific basis -- but go ahead
12 and finish up. I did cut you off.

13 MS. LYONS: Okay. I mean, I know that
14 the write-up was definitely focused on defense in
15 depth because that is what I understood the expected
16 Commission requirement to be, only necessary for
17 defense in depth. I did not mean to imply that the
18 plants were not already designed to have defense in
19 depth, just that this is one defense in depth
20 requirement that the Commission we're expecting will
21 determine is necessary for adequate protection under
22 the Adequate Protection Exemption for Backfit Rule,
23 and that, you know, we have to clearly tie the
24 evaluation of that requirement to the best
25 information that we can and make sure that there is

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1 a clear link there.

2 So here, you know, I am just proposing
3 that instead of looking at those three risk metrics
4 that was proposed in the NEI guidance, we instead
5 consider looking at conditional core damage
6 probability associated with the reevaluated hazard,
7 and that that would, in my mind, speak to all of the
8 five principles that, as you mentioned, are in Reg
9 Guide 1.174, but also other -- other uses like --
10 like 504, and I mean even to some extent in the
11 regulatory analysis guidelines.

12 MEMBER CORRADINI: So I finally found
13 the -- the flow chart that I think you are speaking
14 about. So what are you suggesting in difference to
15 the flow chart in terms of the thinking process?
16 Yes, I've got it on my screen now.

17 But -- because according to that, you
18 can't even take this path unless you show by some
19 analysis that you're less than 10^{-4} , so this path
20 is not even available to you. You must take a
21 deterministic path.

22 MS. LYONS: Yeah. In my mind, the
23 entire risk-informed assessment including the risk-
24 informed boxes and the deterministic assessment
25 should be rethought. I mean, if we are just looking

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1 at do they have reasonable protection against the
2 reevaluated hazard, the seismic CDF of less than $1e-4$
3 is not necessarily relevant anymore because this
4 is a risk improvement effort, right, to add defense
5 in depth to the plant.

6 That metric came from an adjustment off
7 of Reg Guide 1.174 requirements which are looking at
8 something totally different. They are looking at
9 compliance with the subsidiary goals. And --

10 MEMBER CORRADINI: But let me just -- I
11 mean, you said something at the beginning of that
12 that I am not sure if that's -- I guess that is not
13 how I was thinking about it. If I reevaluate the
14 risk, I want to make sure with the reevaluated risk
15 that I still meet the overall goal, so that is not
16 demanding additional margin. That is just saying I
17 didn't know what my initial risk was. It is larger,
18 and now I want to make sure that I meet that.

19 That's not the same thing as adding
20 margin. That's not the same thing as adding defense
21 in depth. That's at least my interpretation of
22 going through this whole thing, right, is that I
23 have gone back, and the seismic work is not what I
24 thought it was. It is larger, and now I've got to
25 make sure I still fit within the box of my -- my

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1 safety goals.

2 MS. LYONS: We would like that.

3 MEMBER RICCARDELLA: So are you
4 proposing the same evaluation, but without these
5 fixed limits of -- is that what you are suggesting,
6 that you just do the evaluation, show what the delta
7 seismic risk, what the delta risk is, and then
8 submit that and make a judgment as to whether it is
9 acceptable or not without any hard limits? Is that
10 what you are suggesting?

11 MS. LYONS: No, not without any hard
12 limits. I -- to me, the more defensible approach
13 would be to look at the conditional core damage
14 probability at the reevaluated hazard, so that is
15 different than the delta. They would not be doing a
16 delta -- like they proposed a delta of their FLEX
17 equipment meeting C 10 versus --

18 MEMBER RICCARDELLA: Yes.

19 MS. LYONS: -- whatever it is right
20 then, you know, at the moment.

21 MEMBER RICCARDELLA: That is what they
22 call the deterministic approach.

23 MS. LYONS: Right, so they looked at
24 that delta though between those two cases. We would
25 look at a conditional core damage probability, so

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1 assuming you have a hazard -- a seismic event at the
2 level of the reevaluated hazard, what is the chance
3 that you go to core damage? So that speaks to me
4 more directly to the level of protection you have
5 against the reevaluated hazard, versus the deltas,
6 which -- which did not necessarily have a direct tie
7 to this requirement of having reasonable protection.

8 (Pause.)

9 MEMBER RICCARDELLA: I'm a little
10 confused. Since there is a -- you -- you do have a
11 probability of an initiating event, then by having
12 these deltas, aren't you in effect looking at
13 conditional core damage probabilities?

14 MS. LYONS: Right.

15 CHAIRMAN STETKAR: Their -- their point
16 is if the frequency of the reevaluated hazard is
17 5×10^{-5}
18 per year, the conditional core damage
19 probability at the screening criterion is 1 --

20 PARTICIPANT: Yes.

21 CHAIRMAN STETKAR: -- meaning core
22 damage is assured. And their -- their position is
23 they feel uncomfortable with that because that
24 possibility --

25 MEMBER CORRADINI: But -- but --

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1 CHAIRMAN STETKAR: -- exists --

2 MEMBER CORRADINI: -- but just take a
3 step back.

4 CHAIRMAN STETKAR: -- in this time
5 frame.

6 MEMBER CORRADINI: We are talking for a
7 handful of plants, not all the plants. So first --

8 MS. LYONS: Right.

9 MEMBER CORRADINI: -- the plants are
10 reevaluated, and many of them, in the reevaluation,
11 they are within their previous analysis, right? Now
12 I've got another grouping of plants. This is the
13 logic that I have to be reminded of. Then there is
14 another set of plants that do not meet, and now, by
15 that simplified analysis, they have to do something
16 more complex. That is when I thought we went to the
17 flow chart to decide whether I take a deterministic
18 approach or a probabilistic approach. Am I
19 misunderstanding?

20 PARTICIPANT: Which flow chart?

21 MEMBER CORRADINI: I am looking at all
22 you -- the one from -- the NEI flow chart that we
23 talked about about three weeks ago.

24 PARTICIPANT: Right.

25 CHAIRMAN STETKAR: We were told --

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1 MEMBER RICCARDELLA: The one that
2 addresses Path 5 --

3 MEMBER CORRADINI: Right.

4 MEMBER RICCARDELLA: -- right?

5 MS. LYONS: Yes.

6 MEMBER CORRADINI: Right.

7 MEMBER BLEY: And that's the whole chart
8 which has a deterministic path --

9 MEMBER RICCARDELLA: I understand.

10 MEMBER BLEY: -- and a risk-informed
11 path.

12 (Simultaneous speaking.)

13 MEMBER RICCARDELLA: Isn't the
14 deterministic --

15 PARTICIPANT: The whole chart is --

16 MEMBER RICCARDELLA:: -- essentially --

17 PARTICIPANT: -- just Path 5.

18 MEMBER RICCARDELLA: -- consistent with
19 what you suggested, that, you know, you assume your
20 containment probability is -- is 0.9, if probability
21 of success if 0.9, you've got a 10 percent. Well,
22 by them going back and saying, well, make sure all
23 my mitigation equipment meets the C 10 percent,
24 isn't that effectively the same thing?

25 MS. LYONS: I mean, they are not getting

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1 that from their seismic PRA, but they are getting it
2 from the fragility numbers for the specific
3 components and on a component-by-component basis
4 meeting that, yes. So it is similar. It is -- you
5 know, they are integrating their --

6 MEMBER RICCARDELLA: So you don't have a
7 problem with that path?

8 MS. LYONS: We did not evaluate that
9 path. I think that was already endorsed for Path 4
10 plants, the C 10 concept. The reliability numbers
11 associated with that will not be like 90 percent.
12 It will be less than that, likely, but it was -- we
13 did not look at that because that was already
14 endorsed.

15 MEMBER RICCARDELLA: You know, as we
16 said in the other meeting, Dennis, in this case, the
17 deterministic approach path is more conservative
18 because it is saying if something -- you know,
19 rather than do a bunch of -- rather than pencil
20 whipping, I'm going to go in and fix the equipment
21 and make it survive better, so that's a more
22 conservative approach --

23 MEMBER BLEY: Make it --

24 MEMBER RICCARDELLA: -- than the --

25 MEMBER BLEY: -- more likely to survive.

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1 MEMBER RICCARDELLA: More likely to
2 survive, as likely as all the other equipment in the
3 plant.

4 MEMBER KIRCHNER: But I guess I tend to
5 agree with Pete, unless I am misunderstanding
6 fundamental. If you were just to pull these -- you
7 think those numbers are too high, but they were
8 already going down -- if they are getting a higher
9 number, they are going down that deterministic path
10 in the branch in their flow diagram, right?

11 MS. LYONS: My understanding is that
12 licensees can choose which path to go down in that
13 flow chart, so if they -- say they do a seismic PRA
14 and they have seismic a CDF of $4e-5$, if I were the
15 licensee, I would choose a risk-informed assessment.
16 I would screen on that first box, and I would not do
17 anything further except look at spent fuel --

18 CHAIRMAN STETKAR: If you had a seismic
19 PRA, you might do that. If you did not have a
20 seismic PRA and you could show all of your equipment
21 met the C 10 criteria --

22 MS. LYONS: Right.

23 CHAIRMAN STETKAR: -- that is pretty
24 easy to do, so you are presuming they have a seismic
25 PRA.

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1 PARTICIPANT: Why would you think they
2 do not?

3 CHAIRMAN STETKAR: Well, a lot of them
4 don't --

5 MEMBER RICCARDELLA: Well wait --

6 CHAIRMAN STETKAR: -- and --

7 MEMBER RICCARDELLA: -- no, but --

8 CHAIRMAN STETKAR: Wait. A lot of them
9 don't, and it is expensive to actually do a full
10 scope seismic PRA in accordance with the criteria
11 for Reg Guide 1.200 and have a peer review of that
12 PRA, which is a requirement to take the risk-
13 informed --

14 MEMBER RICCARDELLA: But you don't --

15 CHAIRMAN STETKAR: -- approach.

16 MEMBER RICCARDELLA: -- but you don't
17 get to this path unless the seismic loads exceed --
18 unless your new GMRS is twice -- is more than twice
19 your original SSE.

20 CHAIRMAN STETKAR: All right.

21 MEMBER RICCARDELLA: And I think, in the
22 other side of this, in meeting 2.1, you're going to
23 have to do a seismic PRA or a seismic margins
24 analysis just because of that, independent of your
25 FLEX equipment, right? Isn't that right, Mo?

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1 MR. SHAMS: In 2.1, if you have an
2 exceedance, then -- then -- and we did screen a few,
3 considering that the risk is -- there is no benefit
4 of them doing the SPRA, but there are 20 sites where
5 we believe that there is benefit of doing the SPRA,
6 so those sites are doing it. It does not translate
7 to they have to do it to assess their mitigating
8 strategy. That is a choice.

9 But your point is well-taken. If the
10 risk is too high, larger than $1e-4$, they cannot go
11 through that flow chart and the delta risk approach.
12 They have a different interaction with the regulator
13 on what else they need to do before they actually
14 take that --

15 MEMBER RICCARDELLA: On the 2.1 side?

16 MR. SHAMS: Correct, sorry, yes.

17 MEMBER RICCARDELLA: I thought anyone
18 that had a new GMRS that was that much higher than
19 their SSE would almost automatically be doing a
20 seismic PRA.

21 MR. SHAMS: That is a true statement,
22 yes.

23 MR. SNODDERLY: Excuse me, John? This
24 is Mike Snodderly from the ACRS staff. I just
25 wanted to let the members know that last Wednesday,

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1 November 9th, I sent the two non-concurrences so
2 that if you did not receive them, please let me
3 know, and I'm going to make sure I did not mess up
4 anyone's email. Thanks.

5 MR. FRANOVICH: If I can have a moment
6 of your -- it is Mike Franovich, JLD. Thanks, Mike
7 Snodderly, for noting that. I am not here to debate
8 non-concurrences, but I would encourage the
9 committee members to take a look at the response,
10 especially in the context of adequate protection,
11 Commission guidance, and what the intent of the ISG
12 is trying to achieve regarding the rule, the MBDBE
13 rule, ultimately, and that there is also a separate
14 process called the 2.1 process where we will look at
15 plants systematically for potential backfitting. So
16 there are two processes in play. There is an
17 interesting discussion about adequate protection and
18 numerical values that I think might be of interest
19 to the committee.

20 MEMBER BLEY: Where is the 2.1 process
21 laid out? I don't remember --

22 MR. FRANOVICH: Actually, if you recall,
23 back in August, we talked about the guidance for 2.1
24 evaluations, both for flood and seismic, and that
25 that framework was a deliverable to the Commission

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1 that we sent up in September. What it came down to
2 is essentially the backfit process supplemented with
3 considerations of risk guidance documents such as
4 the LIC-504, which is an NRR office instruction, and
5 that a series of panels would be set up with senior
6 executives on those panels with technical advice
7 from the staff.

8 MEMBER BLEY: Thanks.

9 MEMBER RICCARDELLA: The committee has
10 not been briefed on the actions in response to 2.1,
11 I don't think.

12 MR. SHAMS: Mo Shams with JLD. I mean,
13 we would be glad to come back and brief the
14 committee again. I would offer that we have shared
15 that with the committee in previous presentations.
16 I have in my hand here the presentation that we
17 shared with you on October 19th, and we walked
18 through the green boxes versus the blue boxes.

19 MEMBER BLEY: Yes, I remember that. I
20 just did not remember the name Mike used. Thank
21 you.

22 MR. SHAMS: Yes.

23 MEMBER BLEY: No, you don't have to do
24 it again.

25 (Laughter.)

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1 MR. SHAMS: Okay.

2 CHAIRMAN STETKAR: Is -- I have to be
3 cognizant of the time here, so I want to bring this
4 session to a close.

5 Any -- any other questions of kind of
6 major concern or elaboration for Stacy and Sara?

7 (No audible response.)

8 CHAIRMAN STETKAR: If not, thank you
9 very much. Obviously, you have piqued a couple of
10 our curiosities, anyway, which is what you ought to
11 be doing, so thank you very much.

12 MS. LYONS: Thank you.

13 CHAIRMAN STETKAR: So we'll bring NEI up
14 to have a presentation.

15 (Pause.)

16 CHAIRMAN STETKAR: Well, Jim, continue,
17 or start, or whatever you're going to do.

18 (Laughter.)

19 MR. RILEY: I think you will do that.
20 Thank you, John.

21 My name is Jim Riley, I am a senior
22 technical advisor with NEI and we would like to talk
23 to you about the comments we have on the draft
24 rulemaking package. And I will say going in that
25 some of these we have already talked about. So, I

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1 think we can keep the discussion to whatever you
2 would like on those but it should be, perhaps, a
3 little bit shorter because of that.

4 So, the things that we would like to
5 talk about, and the first one you haven't heard yet
6 is the subject of drills and exercises and some
7 clarification we think would help with the
8 rulemaking package.

9 Secondary containment you know we have
10 already talked about. Targeted hazard mitigating
11 strategy is really a statements of consideration
12 clarification issue there that we would like to
13 request. Documentation of changes, again, it is an
14 example that we think should be clarified. ELAP
15 versus loss of all AC I believe we talked about and
16 implementation we did, too.

17 So, like I said, some of these could go
18 fairly quick but, of course, we are open to
19 questions, should you have any.

20 Okay, first on drillers or exercises,
21 when we were looking at the draft package, there is
22 a section in there 50.155(e)(4) that says conduct an
23 additional drill or exercise demonstrates the
24 capability to transition to and use one or more of
25 the strategies and guidelines in paragraphs (b)(1)

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1 through (e)(3).

2 The concern we have here is just one of
3 clarity. Because of the fact that when licensees
4 are looking at how they might deal with reevaluated
5 hazards, they may pursue a (b)(2) strategy and, in
6 so doing, replace their (b)(1) strategy; they are
7 now using something out of (b)(2). So the question
8 comes what does that mean the way the language is
9 currently in there. Do you do a strategy against
10 all three, even though in fact you are using (b)(2)
11 to address a flooding hazard, for example, or not?

12 And what we thought would make this more
13 clear is to say, to do (b)(1), (b)(2) and (b)(3)
14 unless (b)(1) still doesn't apply because you have
15 replaced (b)(1) by (b)(2). Now, to remind
16 everybody, (b)(1) was a basic FLEX strategy; (b)(2)
17 was a strategy in response to reevaluated hazard.

18 But what we agreed to, the bottom line,
19 is you need to do drills or exercises on those
20 strategies that are new, that are different in each
21 strategy. But we are concerned that the way the
22 language is right now it is ambiguous and we are
23 suggesting a change that would say (b)(2) if it is
24 different than (b)(1) and (b)(3). That's it. I
25 mean it is just simply a matter of clarification.

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1 Okay? Five second rule.

2 Secondary containment -- and we have
3 already talked about this. And I am encouraged by
4 the fact that it seems that our concern is one that
5 was also expressed by the subcommittee here. The
6 concern is that the applicability statement for
7 decommissioned plants talks about the need to
8 maintain or restore secondary containment
9 capabilities for plants that rely on secondary
10 containment to retain -- I don't remember the exact
11 language in front of me -- but to retain fission
12 products, et cetera, during a potential condition.

13 Our concern is that there was never any
14 requirement to maintain secondary containment. It
15 wasn't part of the EDMG rule. It wasn't part of
16 mitigating strategies. And putting that into the
17 applicability statement is, to us, changing the
18 requirements that we thought, that we thought the
19 basis of what we are trying to do with incorporation
20 of 50.54(hh)(2) into 51.55 was to maintain the
21 requirements, not to add to them.

22 And our position is the addition of this
23 language regarding secondary containment is more
24 than what was required by the existing regulation
25 under 50.54(hh)(2). And as I mentioned, when I made

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1 my statements at the microphone, it also comes
2 across a little oddly that by doing it the way that
3 the current draft is set up, it would seem to add a
4 requirement for maintenance of secondary containment
5 for decommissioning plants that are in this
6 position, as opposed to operating plants.

7 So, it would seem to add another
8 requirement for maintaining secondary containment,
9 once you get it in decommission space. That doesn't
10 make sense because you would have moved the fuel
11 over to the spent fuel pool if you are in the
12 decommission space anyway.

13 CHAIRMAN STETKAR: So, just to help me
14 out, Jim, I am less familiar with the EDMG rule
15 because that kind of precedes my time. But as I
16 understand it, your interpretation of the orders now
17 for FLEX was those orders did not require
18 maintenance of secondary containment with respect to
19 damage in the spent fuel pool. Is that correct? It
20 just said maintain containment.

21 MR. RILEY: Yes, it said maintain
22 containment.

23 CHAIRMAN STETKAR: It said spent fuel
24 pool cooling, core cooling, and containment.

25 MR. RILEY: Exactly. That is exactly

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1 what our position is, that it was not a requirement
2 in there to maintain secondary containment. And in
3 fact, under certain strategies, you would have to
4 run lines and things through what would be your
5 secondary containment to get water to the spent fuel
6 pool. So, it wouldn't be maintained in secondary
7 containment under those kinds of conditions.

8 CHAIRMAN STETKAR: Thanks.

9 MR. RILEY: Okay. This is another
10 clarification issue. As you might remember, when we
11 were going through the discussion of the various
12 mitigating strategies options that were out there,
13 we listed alternate mitigating strategies and
14 targeted hazard mitigating strategies. And you may
15 remember that how we distinguished between those two
16 strategies was that a targeted hazard mitigating
17 strategy did not necessarily maintain containment
18 capability but it did require maintaining core and
19 spent fuel pool cooling.

20 The way the statements of consideration
21 are written, they talk about a targeted hazard
22 mitigating strategy or an alternate mitigating
23 strategy as one that doesn't necessarily assume an
24 ELAP unless the ELAP was caused by the event. But
25 it doesn't talk about the fact that, under a

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1 targeted hazard mitigating strategy, containment
2 capability does not need to be maintained.

3 So, what we are suggesting is that that
4 clarification be added and basically say that under
5 a targeted hazard mitigating strategy you need to
6 maintain core and spent fuel pool cooling. Just
7 leave it at that, without necessarily going into the
8 negative. But it is not clear, based on what is in
9 the statements of consideration right now.

10 MEMBER SKILLMAN: Jim, please go back
11 one slide.

12 MR. RILEY: Yes.

13 MEMBER SKILLMAN: I understand your
14 words but let me ask this. It seems like the
15 suggestion that you are making is turning a blind
16 eye to that design that might require that secondary
17 containment for fission product contained in the
18 pool. So, I don't know if your push back is from a
19 sea lawyer perspective, and that is, I don't want to
20 have to comply with that because that wasn't in the
21 original rule, or if you are pushing back from a
22 technical perspective.

23 But it seems that from a functional
24 perspective, one would naturally assume that if the
25 secondary containment is a fission product barrier,

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1 that it should be maintained intact, as long as the
2 fuel has the capability to release its fission
3 product.

4 MR. RILEY: I agree with what you are
5 saying. I don't like your term sea lawyer.

6 MEMBER SKILLMAN: Okay.

7 MR. RILEY: But it is one thing to say
8 that there is an expectation to maintain secondary
9 containment when you can. It is another to put the
10 requirement into the rule when it is something that
11 wasn't required by the base.

12 MR. AMWAY: Yes, if I can just -- this
13 is Phil Amway, Exelon. If I can just go back to the
14 guidance in the 06.12, the portions that are
15 applicable to secondary containment, there were
16 really two things. One was you had to have a means
17 to vent the primary containment into the secondary
18 containment so that you could preserve the primary
19 containment function. So, in the transition to
20 where you have offloaded all the fuel and submitted
21 your 50.82 alpha cert, there is no fuel in the
22 primary containment anymore. So, that wouldn't
23 apply because you don't need the primary containment
24 anymore.

25 The other portion is in 337, which is

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1 under portable sprays, where the objective is to
2 provide a means to reduce the magnitude of any
3 fission product releases by spraying. And the
4 performance attribute is to provide procedures and
5 guidance on use of the portable spray capability
6 provided for spent fuel pool mitigation, in the
7 event of the release from the containment/auxiliary
8 building.

9 So, what we are talking about is we are
10 actually spraying the outside surfaces of buildings.
11 So, to me, that is a mitigation strategy for the
12 loss of the secondary containment capability. It is
13 not maintaining the secondary containment
14 capability.

15 I, like John Stetkar, I missed that in
16 the draft that was done for public comment. It
17 wasn't until I read the statements of consideration
18 that that jumped out at me. I said well, wait a
19 minute. I am not maintaining secondary containment
20 capability for FLEX mitigation strategies or EDMGs.
21 For EDMGs I have a mitigation strategy, where I
22 spray on the outside just to knock down the loose
23 particulate that could be resulting from the event.

24 If you think about that in terms of a
25 fire or explosion, one of the outcomes of that is I

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1 could lose the sheet metal siding on the side of the
2 building, and which I can't maintain a secondary
3 containment capability.

4 So, that is why I looked at it as I
5 think the intention was you are going to do the same
6 things that is in 337 of 06.12 but the wording does
7 not support that.

8 MR. RILEY: I was talking last night to
9 some of the folks that worked on the development of
10 the EDMGs. I didn't either. But the intent was not
11 to maintain -- not to require maintaining secondary
12 containment for the reasons that Phil was outlining.
13 When you are dealing about large area fires and
14 explosions and aircraft impacts, it is likely not
15 going to be something you can rely on, that you will
16 still have secondary containment because you know
17 for some designs it is not a robust structure and it
18 is in a place that it could easily be affected.

19 So, there was never that expectation
20 that secondary containment would be maintained, that
21 the mitigation aspect of it, like Phil outlined is
22 something that was there.

23 MEMBER SKILLMAN: Thank you for the
24 clarification. Got it.

25 MR. RILEY: Okay, documentation changes.

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1 For the record, there is a typo on this slide,
2 probably an important one. On that first sub-
3 bullet, it says portions affecting only beyond basis
4 functions. There should be a word design in there
5 before basis.

6 But the idea here is another
7 clarification item. We are in agreement with the
8 way that the draft rulemaking package outlines the
9 documentation of changes but there is an example in
10 the statements of consideration, it is back on page
11 136, that talks about an SSC change and how you
12 would apply the regulation 155(g) in that regard.
13 And it is confusing that it isn't clear to us that
14 the requirement is that if you have a change that
15 has both design-basis and beyond design-basis
16 aspects that you would evaluate the beyond design-
17 basis aspects to 50.155 in the documentation section
18 and the design-basis aspects to the applicable
19 regulation that applies to the design-basis changes.

20 It sounded like the way that that
21 example was being expressed on that page, that you
22 would apply the change to 50.159 -- or 50.59 or
23 whatever the applicable regulation is. That was not
24 the intent, I don't believe. And we are suggesting
25 some words that would help clarify that.

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1 DR. SCHULTZ: So, Jim, I'm looking at
2 the sentence and it didn't confuse me but maybe you
3 are just asking for a short phrase --

4 MR. RILEY: Yes, that's all.

5 DR. SCHULTZ: -- to separate the two
6 elements.

7 MR. RILEY: Yes. Yes, that's all, just
8 to state something to the effect that the portions
9 that change it affects only beyond design-basis
10 would be evaluated by 50.155(g). The rest of it
11 would be --

12 DR. SCHULTZ: It is a short statement
13 and so maybe --

14 MR. RILEY: Yes, I think when Tim was up
15 here, he was saying that he had heard some confusion
16 in regards to that example, too. So, simple
17 clarification is all that we are talking about
18 there.

19 ELAP versus loss of AC, I believe this
20 is another one that we talked about quite a bit
21 earlier in the meeting. The one thing that I would
22 like to bring out with respect to our comments that
23 I am not sure was discussed, was the fact that the
24 way the statements of consideration characterize
25 loss of all AC, it can be interpreted to imply that

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1 the loss of all AC was an initial condition for
2 mitigating strategies and it was not an initial
3 condition for mitigating strategies. The ELAP, the
4 loss, extended loss of AC was but not loss of AC
5 from the inverters, from the batteries through the
6 inverters and we think that distinction is
7 important. And we do agree that there is
8 contingencies in 1206 for loss of all AC but they
9 are not the initial conditions of the event.

10 Phil, do you want to expand on that a
11 little bit?

12 MR. AMWAY: Yes, just expanding on that,
13 if I back this up to where it is assumed initial
14 condition where I lose, let's say for instance, a
15 loss of power from all my inverters, I then lose for
16 the plant that I am most familiar with that was
17 licensed on, I would have one RPV level instrument
18 that is powered directly from DC. It is the narrow
19 range detector which, of course, is going to be
20 downscale as soon as I scram the plant.

21 So, I start off with no level
22 indication. I have no power for my power range
23 neutron monitors because they are powered off the
24 inverters. I don't have any power indication to
25 know where the control rod positions are.

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1 My source range and intermediate range
2 detectors are powered by DC. Unfortunately, they
3 are normally external to the core and to drive them
4 into the core for power indication takes a small AC
5 motor to drive them in.

6 So, if I assume that condition at time
7 zero, that significantly changes how I approach and
8 enter my procedures. I still enter my ELAP
9 procedures and all the station blackout stuff. But
10 without power indication and without indication of
11 rods, that also forces me into ATWS mitigation. And
12 if I don't have any level indication, that forces me
13 into the RPV flooding contingency procedures because
14 I don't know where the level is.

15 So, the intent of our contingency
16 procedures is we can deal with isolated failures.
17 Let's suppose a portion of the DC circuit fails such
18 that RCIC doesn't start. Yes, I can send an
19 operator down there and hopefully start RCIC. Where
20 if I get some primary piece of instrumentation fails
21 because that portion of the circuit fails, I have
22 contingencies to send an operator out that can read
23 it with local test equipment. What I can't do is
24 from time zero put all those contingencies in place
25 at the same time and try to at the same time, try to

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1 locally start RCIC and read instrumentation at
2 multiple locations with test equipment and fit that
3 in to my existing strategy time line is how I
4 validated it.

5 So yes, I agree, we have contingency
6 actions in place for the loss of these various
7 components but not as a combined set of things that
8 happened at time zero.

9 CHAIRMAN STETKAR: Well, that is
10 interesting because I was interpreting all of the
11 discussion as there would be -- we are not talking
12 about EOPs now. We are talking about mitigation
13 strategies. So, they are not EOPs, as you were
14 walking us into.

15 I was under the, apparently mistaken,
16 impression that the mitigation strategies would have
17 contingencies so if I had no DC, they would identify
18 actions for the operators to start locally key
19 pieces of equipment and they would identify
20 instrumentation that the operators would use to make
21 sure they still have core cooling. You are telling
22 me no, they don't.

23 MR. AMWAY: They do have the
24 contingencies built it.

25 CHAIRMAN STETKAR: In the mitigation

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1 strategy guidelines?

2 MR. AMWAY: There is references through
3 the EOPs and the support structure that would get
4 you to the locations you need to do to go read local
5 tests, you know use test equipment for indications
6 and for local start of RCIC, or AFW or whatever it
7 is.

8 What I am saying is when we put our
9 strategy sequence and time lines together, we did
10 not assume the loss of all inverter power at time
11 zero.

12 CHAIRMAN STETKAR: Okay, so you didn't
13 assume it at time zero. I'm going to assume that at
14 time key equals 37 minutes and 18 seconds. Now
15 where are your contingencies? It wasn't at T-zero.

16 MR. AMWAY: They are still there but if
17 I have that power initially and do my initial plant
18 status assessment, I have confirmed all rods
19 inserted. I have confirmed power range instruments
20 downscale so that gets me out of the ATWS. I have
21 initial level indication that I can use and I have
22 multiple level indicators.

23 CHAIRMAN STETKAR: Yes, but they all
24 went away at 37 minutes and 18 second.

25 MR. AMWAY: At some time later. Now, I

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1 am into the vent. I have done my initial assessment
2 of plant conditions. I have set people out to start
3 doing actions. And if these failures were to come
4 up at some time while I am implementing, I am
5 already down the path of the FLEX mitigation
6 strategies. I have the procedures in place to
7 implement those contingencies.

8 It is just the sequence and the timing,
9 having all that occur at time zero is not how we
10 structured and implemented our FLEX strategies. We
11 are five years into it and we have done our staffing
12 assessments. We have done all of our procedures and
13 training with the assumption that, initially, we
14 have power from the inverters.

15 CHAIRMAN STETKAR: Okay, that is why
16 earlier I was asking the staff how they -- since
17 they in the statements of consideration and in the
18 discussions that we have had are relying on those
19 contingencies they say to address this condition of
20 no DC power. And they aren't putting any timing on
21 it and I initially didn't put any timing on it. You
22 are putting the timing on it.

23 And I think they did put it. I am
24 looking at page 28. It says initial conditions
25 exceeding the conditions described above, where

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1 described above points to the classical definition
2 of ELAP where power from inverters is initially
3 available, including the loss of all AC power,
4 including power from batteries either directly or
5 through inverters.

6 So, that's it. That is the loss of
7 everything and initial conditions. So that to me
8 means time zero.

9 CHAIRMAN STETKAR: What page was that
10 on?

11 MR. AMWAY: This is page 28, about the
12 middle of the page, paragraph 2.

13 CHAIRMAN STETKAR: Right. Okay. And
14 you are disagreeing with that notion that -- you are
15 saying that the contingencies do not and are not
16 intended to address that T-zero. They have -- there
17 are contingencies but they apply at some nondescript
18 time after T-zero.

19 If I had a single instrument that failed
20 because something failed in a portion of the
21 distribution system, I could deal with that. Or if
22 I had something where RCIC failed to start because
23 of a DC circuit failure, I could probably deal with
24 that on an individual failure basis. My concern is
25 if I try to use the contingencies for all the

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1 instrumentation I need, at the same time, I am
2 trying to locally start RCIC. I did not time
3 validate that way nor did I assume that I would have
4 no indications to me available at time zero so that
5 I can't even confirm the reactor shutdown. That, to
6 me, is significant. If I can't confirm the reactor
7 is shut down at time zero, that throws my whole
8 strategy in a different direction.

9 Now, I have looked through the EOPs and
10 I can figure out how to get myself back on the right
11 path. But it is certainly not what we assumed when
12 we did all those staffing assessments and time
13 studies and everything else. We always assumed that
14 initially they would be able to make that
15 determination. The reactor will shut down and
16 remain shut down under all conditions.

17 MR. RILEY: It is probably worth
18 pointing out in our discussions with the staff, I
19 think, I believe -- I'm putting words in your mouth
20 here, so I have got to be a little careful but I
21 believe they are pretty much aligned with us from
22 the standpoint that this was never considered an
23 initial condition for mitigating strategies. But
24 you know, I am putting words in your mouth. I am
25 going to stop with that.

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1 And another thing that is worth pointing
2 out is as bad as Fukushima was, they didn't lose DC
3 immediately either.

4 MEMBER SKILLMAN: The way I read this,
5 Phil, is it simply recognizes that if the initial
6 conditions are greater than ELAP, then there are
7 remedies available. I don't read 2 as requiring
8 that extraordinary condition to be the initial
9 condition.

10

11 So, the way I read 2, it is in the
12 direction that you are expressing that it is not the
13 initial condition. But if, for some reason, the
14 initial conditions are worse than ELAP, there are,
15 in fact, contingencies that the operators can take.

16 So at least the way I read this
17 paragraph, it is intended to favor the position that
18 you just explained, not to be adverse to the
19 condition that you just explained.

20 MR. AMWAY: And I would agree if the
21 wording supports that, I think it's okay. It is
22 just when I read through it, to me, it looked like
23 we intentionally decided to assume conditions,
24 initial conditions were worse than we have been
25 assuming so far in the last five years.

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1 And my big hang-up was where it said
2 initial conditions. If it said conditions exceeding
3 the initial conditions, I mean because up above it
4 speaks to this is how we define our strategies with
5 paragraph 2 being we do have contingency procedures
6 for worse conditions that assume the above.

7 To make that crystal clear, I think is
8 very important.

9 MEMBER SKILLMAN: I agree. That's a
10 good catch. Thanks.

11 DR. SCHULTZ: Now would you be then
12 satisfied if it read, if the word initial was struck
13 from paragraph 2 or do you need some time frame or
14 something addition to make that --

15 MR. AMWAY: Well, taking initial out
16 would be a big starting point. We did propose some
17 language changes there that would go something to
18 the order of conditions exceeding those described
19 above that include the loss of power beyond the
20 conditions of ELAP. And I took out all AC because
21 we are also talking about DC. So, you can't just
22 restrict it to AC.

23 So, the loss of power, including power
24 from batteries either directly or through inverters
25 are not considered initial conditions, i.e., in the

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1 development of the response strategies and
2 guidelines, these conditions are not present at time
3 zero but are addressed through contingencies within
4 the mitigation strategies that involve sending
5 personnel locally and manually and then it goes on
6 to describe what those contingency procedures do.

7 It is just a clarification to say yes,
8 we understand. We do have those contingency
9 procedures but this is how that applies to the
10 overall objective of having the mitigation
11 strategies where it starts with an ELAP.

12 MR. REED: This is Tim Reed. This is a
13 situation -- this came during the concurrence
14 process. You are well aware of the nonconcurrence
15 on this issue. So, we actually tried to clarify the
16 contingency language and I don't think it is exactly
17 like what you are saying but I can read -- it is
18 actually on the current version, the FRN. Page 25,
19 we actually say to address conditions more severe
20 than the assumed conditions discussed above, which
21 were the assumption for developing mitigation
22 strategies right above and I say i.e., potentially
23 including loss of power from batteries and, thereby,
24 provide a set of regulatory guidance that implements
25 the loss of all AC power requirement the MD rule,

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1 mitigation strategies contain contingencies, then we
2 go on.

3 So, the initial condition language is
4 not there. We tried to -- I think we are sort of
5 aligned with what you just said.

6 CHAIRMAN STETKAR: Okay, Tim?

7 MR. REED: Yes?

8 CHAIRMAN STETKAR: You guys can talk
9 among yourselves all you want to. We need, as I
10 said earlier, we need something that is somewhat
11 frozen in time for the ACRS to be able to write a
12 letter on.

13 MR. REED: Yes.

14 CHAIRMAN STETKAR: And that's all we
15 care about. So, let's move on.

16 Jim, you have a couple more slides.

17 MR. RILEY: I do. These are the
18 implementation, which is next, is something you have
19 already been briefed on, too.

20 We are in agreement with the approach
21 that Tim was outlining. In fact, as he indicated,
22 this was something we discussed at the cumulative
23 effects of regulation meeting about a week ago. The
24 simple approach to this, and this first slide lays
25 out the background that in fact there are a number

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1 of BWRs where FLEX implementation, schedule
2 extensions have occurred. And since FLEX compliance
3 is a site-by-site basis, if you have a BWR Mark 1 or
4 2 on that site that gets involved with this
5 extension because of hardened containment vents,
6 then it affects the site's completion and,
7 therefore, there are a significant number of sites
8 that would need this additional clarification, let's
9 call it, on the rule.

10 So, the second slide is what we are
11 suggesting seems to us to work and I think it is
12 consistent with what the staff was saying earlier.
13 Rule compliance two years after the MBDBE rules
14 effective date or three years after the effective
15 date for BWRs is what, one or two containments, and
16 then we would extend the same one-year additional
17 time for the drills or exercises piece and I believe
18 that is consistent with what you have heard before.

19 And then consistent again with the other
20 flexible schedule statement, we would suggest that
21 for the reevaluated hazards or BWR Mark 1 or 2
22 containments that need additional time, that they
23 would have the same ability to request it if they
24 notify the staff within 90 days of the rule-
25 effective date to request an extension by letter

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1 with all the rest of the provisions.

2 So, basically, I am in agreement with
3 what was proposed by the staff earlier. I think
4 that makes sense. It is simple. It seems to roll
5 through pretty easily and we would allow that
6 flexibility for those conditions also.

7 And then the last slide just says,
8 again, what we discussed before. Because of the
9 effect of this three-year now expectation or
10 allowance for BWRs, the Mark 1 or 2 containments, to
11 make sure that the rescission requirements in I
12 continue to flow in a logical manner.

13 And that is our slides. Are there any
14 other questions?

15 CHAIRMAN STETKAR: Any other questions
16 for NEI? Jim, Phil, as always, thanks a lot. You
17 helped clarify some things for me, certainly.

18 Before we go around the table for final
19 comments, I will ask if there is anyone in the room
20 who would like to make a comment, please come up to
21 the microphone and do so.

22 If not, is there anyone on the outside
23 line who would like to make a comment? If so,
24 please identify yourself and do so.

25 I'm not hearing anything. We are trying

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1 a new system here. Ah, okay. Now, it sounds like
2 it is actually there. Is there anyone on the bridge
3 line who would like to make a comment? If there is,
4 could you please identify yourself and do so?

5 We can apply more than the five second
6 rule. Hearing none, we will close the bridge line.

7 And as always, during a subcommittee
8 meeting, I will go around the table and see if any
9 of the members have any final comments. And will
10 start with you, Charlie.

11 MEMBER BROWN: I have no additional --

12 CHAIRMAN STETKAR: Just push the button.

13 MEMBER BROWN: Yes, it was a good
14 discussion. It clarified a bunch of things. And I
15 have no other comments.

16 CHAIRMAN STETKAR: Thank you. Walt.

17 MEMBER KIRCHNER: No comments. Thank
18 you.

19 CHAIRMAN STETKAR: Dr. Corradini, sir.

20 MEMBER CORRADINI: No further comments,
21 just thanks to the staff.

22 CHAIRMAN STETKAR: Dennis?

23 MEMBER BLEY: I think I have got to do
24 some more studying before our full committee
25 meeting. I would say, with all due respect to Phil,

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1 if we have reached the point we talk about the
2 classic ELAP, we have been at this too long.

3 I have a question, John. We had that
4 discussion of the ISG earlier. Are we looking
5 forward to a subcommittee meeting where we will
6 review the ISG once we get a look at it?

7 CHAIRMAN STETKAR: I think we are. We
8 haven't discussed this with the staff. I think we
9 will after this meeting. I think after the ISG
10 comes back from public comments, we would certainly
11 like to take a look at that. So, we will work that
12 out offline.

13 MEMBER BLEY: Nothing more from me.

14 CHAIRMAN STETKAR: Matt?

15 MEMBER SUNSERI: Thank you to all the
16 presenters. No further comment.

17 CHAIRMAN STETKAR: Dana?

18 MEMBER POWERS: Well, it has been some
19 time since I have looked at seismic PRAs that we do
20 have. My recollection is that the seismic PRAs that
21 we had at the time that I looked at them, which I
22 hate to tell you how long ago that was, was about
23 two times ten to the minus fifth.

24 MEMBER BLEY: It varied quite a bit.

25 CHAIRMAN STETKAR: It depends on the

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1 site. It depends on the plant. It depends on the
2 PRA. It depends on -- sometimes it depends on
3 defense.

4 MEMBER POWERS: It has also been a long
5 time since I have looked at level 2 PRAs but when I
6 did look at them, which, again, I would hate to tell
7 you how long ago that was, I don't recall any
8 clustering of conditional containment failure
9 probabilities around 0.1. Much higher.

10 CHAIRMAN STETKAR: You know my personal
11 experience is, from the seismic events, the
12 conditional containment failure probabilities tend
13 to be fairly high because the seismic stuff -- if
14 you get the core damage, you have wiped out a lot of
15 plants.

16 MEMBER POWERS: If you get the core
17 damage, regardless of how you got there, especially
18 for boilers, you are talking more like 0.9. And
19 even for PWRs, I don't recall --

20 MEMBER BLEY: Well, you are often on a
21 complete loss of power scenario which gets you
22 there.

23 CHAIRMAN STETKAR: And I think what I
24 seem to recall, I could be not recalling this
25 correctly, but during some of the discussion that we

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1 had at the subcommittee meeting regarding Reg Guide
2 1.226, and how many plants were involved in that, I
3 thought that I heard most of the folks who are
4 having problems are, indeed, having problems meeting
5 the larger early release frequency criteria.
6 Meaning, their conditional containment failure
7 probabilities are fairly high, compared to their
8 core damage frequencies. And that is not
9 unexpected.

10 MEMBER POWERS: And again, I think
11 setting some criterion, though, based on some
12 hypothesis that I would like to see at 0.1 is just
13 not a good idea. Let the analysis go where it goes
14 because I think you are just in desperate shape once
15 you go to core damage to set some particular
16 criterion.

17 We just don't understand core damage
18 scenarios very well because we haven't got the kind
19 of data that you would need to understand them.
20 And, quite frankly, I don't want to collect that
21 data.

22 CHAIRMAN STETKAR: Anything more?

23 MEMBER POWERS: That's it.

24 CHAIRMAN STETKAR: Dick.

25 MEMBER SKILLMAN: I would like to thank

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1 the staff, NEI, and the nonconcurrence team for a
2 thorough presentation and I have no further comment.
3 Thank you.

4 CHAIRMAN STETKAR: We skipped you.
5 Pete?

6 MEMBER RICCARDELLA: No.

7 CHAIRMAN STETKAR: Ron? I always come
8 back to the esteemed --

9 MEMBER BALLINGER: No.

10 CHAIRMAN STETKAR: The guy was smart
11 enough to bail out when had a chance.

12 DR. SCHULTZ: Just thanks to all the
13 presenters. That was a good afternoon of
14 discussion.

15 CHAIRMAN STETKAR: And I would like to
16 thank everybody. Again, we covered a lot of ground.
17 I think that we are tying up a lot of ends that have
18 been loose for a little bit, a few years. And I
19 really appreciate all the effort everybody put into
20 it.

21 And with that, we are --

22 MR. SHAMS: If I may --

23 CHAIRMAN STETKAR: -- adjourned. Oh,
24 I'm sorry.

25 MR. SHAMS: I can talk to you offline. I

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1 just wanted to maybe say something about the ISG for
2 just a couple of seconds to indicate that --

3 CHAIRMAN STETKAR: You may do that. We
4 are not adjourned.

5 MR. SHAMS: Perfect, thanks. When we
6 met with you on October 19th, we actually did go to
7 ISG and the industry went through Appendix H, which
8 is essentially the subject of what the ISG is trying
9 to endorse. And the only item we left out was the
10 nonconcurrence at the time was pre-decisional and we
11 did not have it. So, to the extent that we want to
12 address that with you and come back and talk about
13 it, we are perfectly happy to do that. I only
14 wanted to indicate that just we have addressed,
15 discussed it. And we can come back as often as you
16 want. I just want to make sure that you appreciate
17 that point.

18 CHAIRMAN STETKAR: Thank you. And now
19 we are adjourned.

20 (Whereupon, the above-entitled matter
21 went off the record at 5:25 p.m.)

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Mitigation of Beyond-Design-Basis Events (MBDBE) Rulemaking

Advisory Committee on Reactor Safeguards
Fukushima Subcommittee
November 16, 2016

Purpose/Approach

- Discuss and obtain feedback from the ACRS Fukushima Subcommittee on the Mitigation of Beyond-Design-Basis Events (MBDBE) draft final rule package
- Walk through the final MBDBE rule, discussing the changes that have occurred from the MBDBE proposed rule to the MBDBE final rule

Background

- Issued MBDBE proposed rule on November 13, 2015, for a 90-day comment period (80 FR 70609)
- Comment period closed on February 11, 2016
- Staff discussed its consideration of the public comments with the ACRS on August 17, 2016
- Supporting draft regulatory guidance was discussed with the ACRS on October 19, 2016
- MBDBE final rule package is currently in concurrence

Final MBDBE Rule Overview

- The MBDBE final rule:
 - Makes generically applicable Order EA-12-049 (“Mitigation Strategies Order”) and Order EA-12-051 (Spent Fuel Pool Instrumentation – “SFPI Order”)
 - Establishes requirements for an integrated response capability supported with staffing, communications, command and control, drills, training, change control
 - Addresses six petitions for rulemaking
- Section 50.155 contains the majority of requirements and is structured as follows:
 - Applicability and decommissioning provisions in paragraph (a)
 - Integrated response capability in paragraph (b)
 - Supporting equipment requirements in paragraph (c)
 - Training and drills in paragraphs (d) and (e)
 - SFPI Order requirements in paragraph (f)
 - Documentation of changes in paragraph (g)
 - Implementation requirements in paragraph (h)
 - Provisions to rescind orders and facilitate removal of license conditions in paragraph (i)

Final MBDBE Rule Changes

- The MBDBE final rule has been clarified and improved
 - Improves alignment of the final MBDBE rule with ongoing order implementation and supporting guidance
- The substantive requirements for the MBDBE final rule remain unchanged (with two exceptions – noted below)
 - Multiple-source-term dose assessment requirements are removed
 - Paragraph (i) is added to rescind orders and facilitate the administrative removal of license conditions
- Improvements/clarifications are made in the following areas:
 - Reevaluated hazards information addressed in § 50.155(b)(2)
 - Reasonable protection clarified
 - Clarifications associated with “loss of all ac”
 - Staffing and communications requirements are moved to § 50.155
 - Spent Fuel Pool (SFP) instrumentation requirements are moved to § 50.155(f)
 - A flexible scheduling provision is added to § 50.155(h)
 - The change control requirement in § 50.155(g) is clarified

MBDBE Rule: Applicability

- The MBDBE rule's applicability requirements are in §50.155(a)
- The following changes are made to § 50.155(a):
 - Proposed § 50.155(a)(2) is deleted as unnecessary
 - Remaining § 50.155(a) is re-numbered
 - The decommissioning provisions in § 50.155(a)(2) are clarified
 - Note: Corrected mistake in FRN: § 50.155(b) through (e), **and (g)** apply in the first phase
- No substantive changes are made to paragraph (a) and it maintains the same applicability and decommissioning provisions:
 - Applies to power reactor licensees, and applicants for Part 50 power reactor operating licenses and Part 52 COLs
 - Maintains the same phase out of the mitigation strategies requirements as the decommissioning process proceeds

MBDBE Rule: Integrated Response

- Paragraph (b) contains the MBDBE rule integrated response requirements
- The following changes are made to § 50.155(b):
 - Reevaluated hazard information is addressed in § 50.155(b)(2)
 - Extensive Damage Mitigation Guidelines now moved to § 50.155(b)(3)
 - Remainder of paragraph (b) is re-numbered
- § 50.155(b)(2) requires that:
 - Seismic and flooding reevaluated hazard information be addressed
 - Can result in changes to the mitigation strategies or event-specific approaches can be used
- Moving the requirement to address seismic and flooding reevaluated hazards information to § 50.155(b)(2) aligns the MBDBE rule with the supporting guidance

MBDBE Rule:

Equipment Requirements

- Paragraph (c) contains the MBDBE rule equipment requirements.
- The following changes occurred to paragraph (c):
 - Proposed (c)(2)(i) reevaluated hazards portion is moved to § 50.155(b)(2)
 - MBDBE rule now contains two reasonable protection provisions aligned with the applicable § 50.155(b) provision
 - Proposed maintenance provision § 50.155(c)(3) is removed due to its being redundant with § 50.155(b)
 - Proposed (c)(4) for SFPI is moved to § 50.155(f)
 - Communications is moved from Appendix E into § 50.155(c)(4)
- These changes align the MBDBE rule with guidance, remove requirements that could create confusion, and decouple requirements to reflect the different purposes of the post-Fukushima orders

MBDBE Rule: Training Requirements

- Paragraph (d) contains the MBDBE rule training requirements.
- The following changes are made to paragraph (d):
 - The only change is a conforming change to reflect § 50.155(b)(1) through (3)
- No significant changes are made to the training requirements in the final rule

MBDBE Rule: Drill Requirements

- Paragraph (e) contains the MBDBE rule drill requirements.
- The following changes are made to paragraph (e):
 - Revised to reflect § 50.155(b)(1) through (3)
 - Revised to reflect communications requirements moving to § 50.155(c)(4)
- No significant changes are made to the drill requirements in the final rule

MBDBE Rule: Spent Fuel Pool (SFP) Monitoring Capabilities

- Paragraph (f) contains the MBDBE rule requirements for a means to monitor SFPs
- These requirements were relocated from proposed § 50.155(c)(4) and decoupled from § 50.155(b)(1)
- The decoupling reflects the different purposes of the Mitigation Strategies Order and SFPI Order.
 - The justification for these requirements are not modified by this rule
- Many licensees chose to use the SFPI to support mitigation of beyond-design-basis events
 - If SFPI is used as equipment for mitigation under § 50.155(b)(1), then the equipment requirements of § 50.155(c) apply to SFPI

MBDBE Rule: Documentation of Changes

- Paragraph (g) contains the MBDBE rule change control requirements.
- These requirements have been revised as follows:
 - Titled “Documentation of Changes”
 - Simplified to combine two separate proposed provisions into (g)(1)
 - Clarified the provision that identifies other applicable change control requirements
- Final MBDBE rule maintains the same approach for change control as the proposed MBDBE rule
- The FRN is revised to include discussion for changes to the implementation of the § 50.155 requirements that fall outside of endorsed guidance and/or approved alternatives

MBDBE Rule: Implementation

- Paragraph (h) contains the MBDBE rule implementation requirements.
- These requirements have been revised as follows:
 - The 2-year implementation requirement for Part 50 operating licensees and COL holders (after § 52.103(g) finding) is combined into a single provision
 - A flexible scheduling provision is added as § 50.155(h)(2) in response to request for comment and cumulative effects of regulation (CER) feedback
- Flexible scheduling provision is:
 - Only applicable to operating licensees that cannot complete the requirements of § 50.155(b)(2) within the 2-year period (i.e., reevaluated hazard information)
 - Licensees must provide good cause for not meeting the 2-year schedule and a basis for the new schedule
- CER meeting was held on November 10, 2016

MBDBE Rule: Rescission of Orders and Removal of License Conditions

- Paragraph (i) contains the MBDBE rule provisions that rescind orders and facilitate the administrative removal of license conditions
- These provisions are new in the final rule and are a result of CER feedback
- The regulatory objective is to establish the requirements of § 50.155 for all power reactor licensees that replace the order and license conditions

MBDBE Rule:

Other Requirements/Changes

- New reactor application requirements (information needed to support review of mitigation strategies) under §§ 50.34(i) and 52.80(d) are simplified
- Proposed 10 CFR 50 Appendix E requirements are relocated:
 - Technology-neutral Emergency Response Data System remains
 - Language to move former § 50.54(hh)(2) exercise requirement into § 50.155(e)
 - Staffing and communications are removed from Appendix E and now in § 50.155
 - Multiple-source-term dose assessment is removed as a requirement (voluntarily implemented)
- Simplifies the rule – all substantive requirements now located in § 50.155

Path Forward

- November 30, 2016: Meet with the ACRS Full Committee
- JLD-ISG-2012-01, Draft Revision 2, “Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events”
 - Influences RG 1.226 for the MBDBE rule (i.e., there will be no substantive differences to the guidance)
 - December 12, 2016: Comment period closes
- December 2, 2016: Provide the MBDBE rule package to the EDO
- December 16, 2016: Provide MBDBE rule package to the Commission

MBDBE Rule

Backup Slide: Regulatory Analysis

- The MBDBE rule is a major rule
 - The majority of costs associated with the MBDBE rule are “sunk” costs from the implementation of the Mitigation Strategies and SFPI orders
 - Additional costs to address reevaluated hazard information cause the rule to be a major rule
 - Makes effective date 60 days after published
- The costs are dominated by the following:
 - One time cost for the industry of \$128 million with recurring annual cost of \$1.2 million (net present value of \$ 141 million at 7 percent discount)
 - Costs dominated by efforts to implement § 50.155(b)(2)
 - Strong function of whether licensees make modifications to address the hazard information
 - Used the cost information provided in response to the proposed MBDBE rule in conjunction with our knowledge of the status of current activities and the current guidance for implementing the MBDBE rule (RG 1.226).

NCP-2016-014*: Differing Views on JLD-ISG-2012-01, Rev. 2 and NEI-12-06, Rev. 3

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*ML16277A617

Principles of Risk-Informed Decision-Making



Issues with NEI 12-06, Rev.3 Proposal

- NEI 12-06, Rev.3, proposes to:
 - Confirm FLEX strategies can be implemented considering the impacts of the Mitigating Strategies Seismic Hazard Information (MSSHI) [reevaluated hazard];
 - Develop and implement modifications necessary to ensure the FLEX strategies are able to address the MSSHI; or
 - Develop and implement Alternative Mitigating Strategies that are able to address the MSSHI
- The acceptance criteria do not align with these goals:
 - $SCDF < 5e-5/\text{yr}$; $SLERF < 5E-6/\text{yr}$
 - $\Delta SCDF\text{-ELAP/LUHS} < 1E-5/\text{yr}$; $\Delta SLERF\text{-ELAP/LUHS} < 1E-6/\text{yr}$
 - $\Delta SCDF < 1E-5/\text{yr}$; $\Delta SLERF < 1E-6/\text{yr}$

Proposed Alternative vs. the Principles of Risk-Informed Decision Making

Alternative: Assess CCDP from SPRA at Reevaluated Hazard

- 1 Meets Current Regulations
 - A direct assessment of the Commission's requirement
- 2 Defense-in-Depth
 - Meeting the expected defense-in-depth requirement
 - Existence of multiple success paths
- 3 Sufficient Safety Margins
 - *To be defined* reliability which meets “reasonable protection” for beyond-design-basis event
- 4 Acceptably Small Increase in CDF
 - Risk reduction expected
- 5 Performance Measurement Strategies
 - Existing programs (SQUG, OE, Maintenance Requirements)

Draft MBDBE Rulemaking Package Comments

Jim Riley

Sr. Technical Advisor, NEI

November 16, 2016

Overview

- Drills or Exercises
- Secondary Containment
- Targeted Hazard Mitigation Strategy
- Documentation of Changes
- ELAP Versus Loss of all AC
- Implementation

Drills or Exercises

- 50.155(e)(4) needs to be clarified
 - “...conduct an initial drill or exercise that demonstrates the capability to transition to and use one or more of the strategies and guidelines in paragraphs (b)(1), through (b)(3)...”
 - Licensee may modify its mitigating strategy in (b)(2), does (b)(1) still apply?
 - Drill or exercise all different strategies
 - (b)(2) only if different from (b)(1)

Secondary Containment

- Applicability of 50.155(b) through (e) to decommissioned plants needs to be clarified
 - 50.155(a)(2)(i)(A) requires maintaining or restoring secondary containment capabilities
 - Maintaining secondary containment capability is not required for FLEX or EDMGs
- Modify language in SOC and rule implying maintenance of secondary containment

Targeted Hazard Mitigation Strategy

- SOC does not clearly state that a targeted hazard mitigation strategy need only maintain core and spent fuel pool cooling capabilities
- Add this clarification
 - Part V, Section 50.155(b)(2)
 - Part VI, Section 50.155(b)

Documentation of Changes

- Example of SSC change in SOC (p. 136) does not clearly show that a change to a SSC should be reviewed separately for beyond design basis and design basis aspects
 - Portions affecting only beyond basis functions should be reviewed against 50.155(g)
 - Design basis portions should be reviewed by 50.59 or applicable regulation

ELAP Versus Loss of all AC

- SOC (p. 28) and RG 1.226 (section C.1.2) statements about loss of all AC need to be clarified
 - Loss of all AC was not an assumed initial condition for mitigating strategies (not present at time zero)
 - ELAP was one of the initial conditions assumed
 - NEI 12-06 addresses loss of AC power supplied from the batteries (through the inverters) by contingencies within the mitigating strategies
- Clarify SOC and RG language

Implementation

- (h)(1): Implementation
 - Appears to presume that all licensees have submitted FLEX final integrated plans before the MBDBE rule is effective
 - Implementation requirement should provide a consistent time period for BWR's that have FLEX implementation schedule extensions
 - Approximately $\frac{1}{2}$ of the BWR fleet sites will not be compliant with FLEX in the fall of 2017
 - Some MBDBE implementation activities will not start until after FLEX compliance
 - Affected utilities will have a compressed timeline for compliance with MBDBE rule

Implementation

- Recommend:
 - (h)(1): Implementation requirement
 - Rule compliance 2 years after MBDBE rule effective date or 3 years after rule effective date for BWRs with Mark 1 or 2 containment
 - Drill or exercise demonstrations 4 years after rule effective or 5 years after rule effective date for BWRs with Mark 1 or 2 containment
 - (h)(2): Flexible Schedule
 - BWR units with Mark 1 or 2 containment receive the same provision for an alternative compliance date as allowed for reevaluated hazards

Implementation

- The rescission requirements in (i) must work for all licensees with alternative compliance dates under (h)(2)