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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

AUGUST 17, 2016

+ + + + +

ROCKVILLE, MARYLAND

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The Subcommittee met at the Nuclear
Regulatory Commission, Two White Flint North, Room
T2B1, 11545 Rockville Pike, at 8:31 a.m., John W.
Stetkar, Chairman, presiding.

COMMITTEE MEMBERS:

JOHN W. STETKAR, Chairman

DENNIS C. BLEY, Member

RONALD G. BALLINGER, Member

CHARLES H. BROWN, JR. Member

MARGARET CHU, Member

MICHAEL L. CORRADINI, Member

WALTER L. KIRCHNER, Member

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JOSE A. MARCH-LEUBA, Member

DANA A. POWERS, Member

HAROLD B. RAY , Member

JOY REMPE, Member

PETER RICCARDELLA, Member

GORDON R. SKILLMAN, Member

ACRS CONSULTANT:

STEPHEN SHULTZ

DESIGNATED FEDERAL OFFICIAL:

KATHY WEAVER

ALSO PRESENT:

ERIC BOWMAN, NRR

GREGORY BOWMAN, NRR

ED LYMAN, UCS

ANDREW MAUER, NEI

WILLIAM RECKLEY, NRR

TIM REED, NRR

JIM RILEY, NEI

RUTH THOMAS, Public Participant*

*Present via telephone

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P R O C E E D I N G S

8:31 a.m.

CHAIRMAN STETKAR: The meeting will not come order. This is a meeting of the Advisory Committee on Reactor Safeguards, Subcommittee on Fukushima. I'm John Stetkar, chairman of the subcommittee meeting. Members in attendance today are, and I've got to get my glasses on so I can see everybody, Ron Ballinger, Margaret Chu, Harold Ray, Dick Skillman, Dana Powers, mike Corradini, Dennis Bley, Pete Riccardella, Jose March-Leuba, Walter Kirchner, and I think we'll be joined by Charlie Brown and Joy Rempe is here. We're also joined today by our consultant, Dr. Steve Schultz. I almost forgot your name. Time flies. It's just terrible.

The purpose of today's meeting is to discuss draft staff guidance in support of Phase 2 of the regulatory decisionmaking for reevaluated flooding and seismic hazards, for operating nuclear power plants, and the staff's plans for addressing public comments received on the draft proposed mitigation of beyond-design-events rulemaking package.

Just to orient everyone and in case

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1 people are on the bridge line, this morning's
2 session is focused on the Phase 2 regulatory
3 guidance. This afternoon's session will address
4 the beyond-design-basis rulemaking.

5 The meeting is open to the public.
6 Portions of the meeting may be closed to discuss
7 any sensitive pre-decisional material. Presenters
8 can defer questions that should not be answered in
9 the public session and I'll caution any of the
10 presenters that if we delve into areas that you
11 think should not be discussed publicly, please
12 alert us and we can close the session
13 appropriately.

14 The meeting is being conducted in
15 accordance with the provisions of the Federal
16 Advisory Committee Act. Rules for the conduct of
17 and participation in the meeting have been
18 published in the Federal Register as part of the
19 notice for this meeting. The subcommittee intends
20 to gather information, analyze relevant issues and
21 facts, and formulate proposed positions and actions
22 as appropriate for deliberation by the full
23 committee.

24 Ms. Kathy Weaver is the Designated
25 Federal Official for this meeting. A transcript of

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1 the meeting is being kept and will be made
2 available as stated in the Federal Register notice.
3 Therefore, it is requested that all speakers first
4 identify themselves and speak with sufficient
5 clarity and volume so that they can be readily
6 heard.

7 As a reminder, check all of your little
8 communications devices. Please turn them off.
9 When you're speaking, please make sure your mic is
10 on. Push the little thing that says push. The
11 green light comes on. When you're not speaking,
12 please turn it off.

13 We've received no written comments.
14 Dr. Ed Lyman of the Union of Concerned Scientists
15 has requested time to make an oral statement. And
16 I understand that there may be other individuals on
17 the bridge line today who are listening in to
18 today's proceedings. The bridge line will be
19 closed on mute so that those individuals may listen
20 in and at an appropriate time later in the meeting
21 and particularly after the end of the morning
22 session and again after the end of the afternoon
23 session, we'll have an opportunity for public
24 comments from the bridge line and from members of
25 the public in attendance.

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1 In addition, I understand that we have
2 another bridge line open for members of the staff
3 who may need to address questions from the ACRS.
4 And anyone who is out there on that bridge line,
5 please keep your phones on mute so that we don't
6 hear background noise and things like that coming
7 in over that bridge line.

8 I'll now proceed with the meeting. And
9 -- don't ever get old. You can't remember
10 anything. You can't see anything. Stuff starts to
11 fall of your body. And that's as far as I'm going.

12 I'll call upon Greg Bowman to open the
13 proceedings. Greg?

14 MR. G. BOWMAN: Thank you, John. It's
15 been a little over five years since the Fukushima
16 accident and we have made substantial progress in
17 implementing lessons learned from the accident.
18 Today, we have around 70 units in compliance with
19 the Mitigating Strategies Order and about 90 units
20 in compliance with the Spent Fuel Pool
21 Instrumentation Order. We have inspections of
22 those orders well under way. We completed our
23 eighth inspection about two weeks ago.

24 With respect to the Vent Order, we're
25 on track to issue the remaining Phase 2 interim

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1 staff evaluations of that order by the end of this
2 month, well ahead of schedule. As you all know,
3 we've dispositioned the majority of the tier 2 and
4 tier 3 recommendations and we expect to resolve the
5 remaining recommendations by the end of this year.

6 We've also been making good progress on
7 the seismic and flooding hazard reevaluations. A
8 number of licensees have already submitted the
9 evaluations that they need to complete work on
10 those recommendations.

11 As John mentioned, the focus of this
12 morning's discussion is on the guidance that we'll
13 be using for Phase 2 decisionmaking for the seismic
14 and flooding hazard reevaluations.

15 The one thing I wanted to say before we
16 get into the presentation is that obviously
17 throughout our work on lessons learned from
18 Fukushima, we've benefitted greatly from our
19 interactions with the committee and we're looking
20 forward to that continuing today and then in our
21 future interactions with you.

22 Next slide, please.

23 So as I mentioned this morning, we'll
24 be discussing the draft regulatory decisionmaking
25 guidance for this flooding and seismic hazard

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1 reevaluations referred to as Phase 2. Phase 1
2 guidance which provides the guidance that licensees
3 use to conduct the hazard reevaluations was issued
4 earlier this year for flooding and several years
5 ago for seismic.

6 Unlike the Phase 1 guidance, the Phase
7 2 guidance is really for NRC internal use. It
8 basically tells the staff how to disposition the
9 input we get from the Phase 1 activities that
10 licensees are undertaking.

11 CHAIRMAN STETKAR: Greg, can I
12 interrupt you for a second?

13 MR. G. BOWMAN: Sure.

14 CHAIRMAN STETKAR: You said that the
15 guidance to perform the Phase 1 seismic analyses
16 was issued several years ago. That's not quite --

17 MR. G. BOWMAN: We'll get into that a
18 little more.

19 CHAIRMAN STETKAR: -- accurate. Some
20 guidance was issued several years ago.

21 MR. G. BOWMAN: There are caveats and
22 we'll discuss that a little farther into the
23 presentation.

24 CHAIRMAN STETKAR: Thank you.

25 MR. G. BOWMAN: Next slide, please. A

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1 number of these -- the first slide will provide
2 some background. We met with you on many of these
3 issues previously, so I'll go through them fairly
4 quickly. That being said, we'd be happy to cover
5 any questions that you may have.

6 CHAIRMAN STETKAR: And recognize that
7 we have three new members here who have not
8 weathered -- I was going to say suffered through --
9 but weathered -- I'll say suffered through the last
10 several years of this.

11 And please, any of the new members who
12 aren't familiar with what this path is don't feel
13 shy. Speak up and ask. It's somewhat convoluted.

14 MR. G. BOWMAN: I can't argue with
15 that. So this slide provides a high-level overview
16 of the tier 1 actions taken in response to the
17 accident. In general, the actions were focused on
18 ensuring that U.S. nuclear power plants were better
19 able to respond to events that were beyond the
20 initial design basis of the facility.

21 Next slide, please.

22 So this slide depicts the new
23 regulatory requirements that were put in place
24 after the accident through the use of orders. The
25 first bullet associated with the development of

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1 mitigating strategies for beyond-design-basis
2 events is bolded because it's particularly relevant
3 to the discussion we're having today. In
4 particular, the mitigating strategies that were put
5 in place as part of that order under the rulemaking
6 will be required to address the reevaluated
7 flooding and seismic hazards. So it's particularly
8 relevant to the Phase 2 decisionmaking.

9 Phase 2 decisionmaking will essentially
10 assess whether actions beyond those associated with
11 mitigating strategies are needed to protect or
12 mitigate the reevaluated flooding or seismic
13 hazards. Next slide, please.

14 So this slide shows the other main
15 regulatory action we took in response to the
16 accident and that was the issuance of a 50.54(f)
17 letter requiring licensees to complete a number of
18 evaluations essentially. This includes
19 reevaluating flooding and seismic hazards for their
20 sites using the guidance that would be used today
21 for combined license or early site permit
22 applications.

23 Next slide.

24 So as you know, a couple of years ago,
25 we wrote COMSECY-14-0037 to the Commission. The

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1 purpose of that paper was to obtain direction from
2 the Commission on the relationship between the
3 Mitigating Strategies Order and the reevaluated
4 seismic and flooding hazards. Based on the
5 Commission direction and response to that paper, we
6 prepared an action plan which was provided to the
7 Commission in COMSECY-15-0019. That action plan
8 consists of the elements on this slide, essentially
9 ensure that the mitigating strategies are able to
10 address the reevaluated hazards; develop a graded
11 approach for the flood hazard reevaluations where
12 we focused on plants with the highest potentials
13 for backfits; and then develop guidance for Phase 2
14 decisionmaking. And since approval of that action
15 plan by the Commission, we've been actively working
16 on both Phase 1 and Phase 2, along with the
17 mitigating strategies component of the action plan.

18 Next slide.

19 So as John mentioned, this is a little
20 bit convoluted. This slide is meant to provide a
21 high-level overview of what was discussed in the
22 previous slide. We're essentially working on two
23 parallel branches. The branch on the left ensures
24 the mitigating strategies are capable of addressing
25 the reevaluated flooding and seismic hazards. The

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1 branch on the right conducts additional assessments
2 to determine if there's a need for additional
3 regulatory action beyond mitigating strategies.

4 VICE CHAIR CORRADINI: Per plant basis.

5 MR. G. BOWMAN: Yes, sir. Next slide.

6 This slide is focused on the guidance
7 for completing the assessments, the mitigating
8 strategies assessments are reevaluated flooding and
9 seismic which is on the left-hand side of that
10 previous slide. We endorsed industry guidance
11 earlier this year that describes for most licensees
12 how they should evaluate the mitigating strategies
13 against the new hazard information. Those are
14 referred to mitigating strategies assessments or
15 MSAs.

16 We briefed you on that guidance
17 previously, but it essentially consists of five
18 paths each for flooding and seismic and licensees
19 select the appropriate path depending on how the
20 reevaluated flooding or seismic hazard compares to
21 what they design their mitigating strategies for.
22 The one exception to that is the seismic Path 5
23 plants. Those are the plants that are required to
24 perform seismic probabilistic risk assessments. We
25 do not have endorsed guidance for Path 5 seismic

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1 yet. We're expecting industry to submit proposed
2 guidance within the next few weeks and we'll be
3 meeting with you in October to discuss that
4 guidance.

5 CHAIRMAN STETKAR: Greg, do you know
6 yet or is industry going to issue a separate
7 guidance for the seismic evaluations like they did
8 for the flooding evaluations?

9 In particular, NEI 12-06 has two
10 appendices, G and H, which address -- I can't keep
11 them straight. One of them is seismic. One of
12 them is flooding. But the industry for flooding
13 developed more extensive guidance that kind of
14 parallels the thought process in NEI 16-05 for the
15 flooding.

16 MR. G. BOWMAN: 16-05 is focused --

17 CHAIRMAN STETKAR: Is the flooding.

18 MR. G. BOWMAN: Is the 2-1 evaluations,
19 not mitigating strategies evaluations.

20 CHAIRMAN STETKAR: That's right.

21 MR. G. BOWMAN: So with respect to
22 seismic Path 5, what we're expecting is ultimately
23 the guidance the industry develops makes its ways
24 into NEI 12-06 as an additional part of appendix --
25 I can't remember, either G or H.

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1 CHAIRMAN STETKAR: Yes. It's H for the
2 seismic, yes.

3 MR. G. BOWMAN: I expect that what will
4 happen is that they will submit a standalone
5 guidance document for Path 5 separately, just to
6 facilitate our review, given how tight the time
7 frame is and then eventually that will get rolled
8 into a 12-06.

9 I can sense a question.

10 CHAIRMAN STETKAR: Well, I just want to
11 make sure I see how -- understanding how all of the
12 guidance for Paths 1, 2, 3, 4, 5 fit together and
13 making sure that something doesn't slip in a crack
14 somehow is something that --

15 MR. G. BOWMAN: So for the rulemaking -
16 -

17 CHAIRMAN STETKAR: -- that's one of the
18 things that we've been trying to keep track of,
19 both for the seismic and the flooding evaluations.

20 MR. G. BOWMAN: What we'll need to have
21 for the rulemaking is essentially seismic and
22 flooding Path 1 through 5 guidance all endorsed as
23 part of a Reg. Guide for the rulemaking.

24 CHAIRMAN STETKAR: Yes.

25 MR. G. BOWMAN: The 16-05 guidance is

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1 separate from that because that's used for the
2 Supplemental 2.1 non-mitigating strategies
3 evaluations. So again, that's on the right-hand
4 side of that previous chart. It's a different
5 thing.

6 CHAIRMAN STETKAR: That's right.

7 MR. G. BOWMAN: But at the end of the
8 day we will have a Reg. Guide that endorses Paths 1
9 through 5 seismic and flooding all together in one
10 document. And that should cover all the plants
11 that need to do mitigating strategies assessments,
12 all the plants essentially.

13 CHAIRMAN STETKAR: Okay.

14 MR. G. BOWMAN: Where were we? Okay,
15 so if you could go to the next slide.

16 VICE CHAIR CORRADINI: From a process
17 standpoint, there are plants that have proceeded
18 through all of this successfully already because
19 you were indicating --

20 MR. G. BOWMAN: Yes. Some plants --

21 VICE CHAIR CORRADINI: That assumes
22 more of the easier pathways though.

23 MR. G. BOWMAN: Right, so none of the
24 plants, I don't think any of the plants have
25 completed the 2.1 work for flooding. There are

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1 some that have completed it for seismic.

2 VICE CHAIR CORRADINI: Not that I would
3 forget, but for the new members, could you at least
4 go through what 1 through 5 -- because as we go
5 from 1 to 5 things get more complex.

6 MR. G. BOWMAN: Right, right. So the
7 paths are different between seismic and flooding
8 and we have some backup slides that show this, but
9 maybe --

10 CHAIRMAN STETKAR: We have time and
11 it's worthwhile sorting through this because it's
12 important that all of the members are clear about
13 what eventually will filter into the Phase 2
14 decisionmaking process.

15 MR. G. BOWMAN: So this slide depicts
16 Appendix G from NEI 12-06 which is for flooding and
17 the five paths are depicted by the S arrows going
18 down.

19 So Path 1 is used for plants that where
20 the reevaluated hazard information is bounded by
21 what they designed their mitigating strategies for.
22 So essentially they get the information. They find
23 the FLEX is appropriate, is good. They don't need
24 to make any changes.

25 Path 2 is used in cases where they're

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1 not bounded, but mitigating strategies can still be
2 implemented successfully without modification.

3 Path 3 -- go ahead.

4 VICE CHAIR CORRADINI: I'm sorry to
5 slow you down, so the differentiator between 1 and
6 2 is under 1, they've done the walkdown. They know
7 what their design basis flood is. They've
8 installed FLEX and it bounds it.

9 MR. G. BOWMAN: Right.

10 VICE CHAIR CORRADINI: So the
11 differentiator to go to Path 2 is what now?

12 MR. G. BOWMAN: So it would be if --
13 let's say they built some -- there was an inherent
14 margin built into the mitigating strategies when
15 they developed. They're not bounded, but there's
16 margin in there. That would be Path 2 and I ask
17 Eric, if you want to add any -- Eric is our expert
18 on this subject.

19 MR. E. BOWMAN: This is Eric Bowman.
20 Path 2 is if they had available physical margin
21 from the reevaluated flooding hazard to the
22 flooding hazard levels that they assumed in
23 developing their mitigating strategies for EA-12-
24 049. So at some sites they had the benefit of
25 having adjacent or nearby early site permits,

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1 combined license applications, things like that.
2 So they had an indication already that the flooding
3 hazard was likely to come out in the new evaluation
4 at a certain level and they could plan ahead and
5 decide this is where the licensee would put the
6 mitigating strategies equipment on the connection
7 points so they wouldn't have to go back and do
8 rework once the reevaluation was done.

9 VICE CHAIR CORRADINI: So can I say
10 this to you a different way just for the sake of --
11 so under Path 1, what they thought was their design
12 base flood is their design base flood. They put in
13 FLEX. I've got everything works out. Under 2,
14 what was their design base flood may have been
15 different, but they still have margin.

16 MR. E. BOWMAN: A better way to put it
17 would be under Path 1 their design basis flood was
18 equal to or higher than the reevaluated flood
19 hazard because we do have some sites that have
20 lower reevaluated flood hazards.

21 Under Path 2, the design basis was
22 lower in some respect to the reevaluated hazard.
23 It could have even been the amount of warning time
24 or some other parameter of the flooding hazard that
25 was not bounded, but there is still margin to the

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1 capabilities of the plant or the capabilities of
2 the mitigating strategies as they were implemented
3 so they would be able to be implemented as
4 designed.

5 MR. G. BOWMAN: So Paths 1 and 2,
6 essentially the plant can implement their
7 mitigating strategies as designed for one of the
8 other reasons. Path 3 --

9 MEMBER RAY: Hold on a second.

10 MR. G. BOWMAN: Yes, go ahead.

11 MEMBER RAY: You used design basis, I
12 think I understand what design basis is, but that
13 box there says FLEX design basis. I just have a
14 simple question. What does FLEX design basis mean?

15 MR. E. BOWMAN: In NEI 12-06, the
16 guidance document for FLEX which is the industry
17 term for the mitigating strategies under Order EA-
18 12-049, the guidance in the section on flooding
19 pointed to the most recent design basis flooding
20 analysis taking into account adjacent licensed
21 sites design bases or early site permits or
22 combined licenses. So it's whatever they used for
23 the design of the mitigating strategies.

24 MEMBER RAY: I thought I got it, but I
25 don't get it.

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1 MR. E. BOWMAN: For example, at some
2 sites like Millstone has a one and a half foot
3 disparity in the flooding design basis between the
4 two currently operating units. The licensee at
5 Millstone chose to use the more conservative higher
6 level for designing their FLEX mitigating
7 strategies and they used the same design basis or
8 FLEX design basis, I should say, flooding hazard
9 for the entire site rather than using a different
10 flooding hazard for Unit 2 and Unit 3.

11 MR. G. BOWMAN: So there's a plant
12 design basis flood. There's a mitigating
13 strategies design basis flood and the reevaluated
14 seismic hazard fits somewhere.

15 MR. E. BOWMAN: Reevaluated flooding
16 hazard.

17 MR. G. BOWMAN: I'm sorry, reevaluated
18 flooding hazard.

19 VICE CHAIR CORRADINI: I'm still not
20 sorry I asked, but thank you.

21 MEMBER RAY: I think I know what FLEX
22 design basis is based on that dialogue. I'll have
23 to ponder it some more, but thanks.

24 MR. G. BOWMAN: Path 3 which is G42 on
25 this diagram. That's used in cases where FLEX

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1 cannot be implemented based on the reevaluated
2 flooding hazard, but the licensee can make
3 modifications to FLEX to accommodate the hazards.
4 So they would make changes to FLEX and that would
5 essentially meet the MSA, mitigating strategies
6 assessment requirement.

7 VICE CHAIR CORRADINI: Site specific
8 again.

9 MR. G. BOWMAN: All this is site
10 specific, yes. And then Path 4 is used in cases
11 where a licensee cannot implement mitigating
12 strategies. They develop what's called alternate
13 mitigating strategies and that's essentially a
14 strategy that focuses on the event, on the flooding
15 event. So what licensees under Path 4 would do is
16 they would look at if you have a flood event,
17 what's the actual impact on the plant? For
18 example, a licensee in Path 4 may be able to say
19 that the flood event does not cause a loss of all
20 AC power and therefore they can take different
21 actions. So it's really a flooding-focused
22 approach to addressing the mitigating strategies.

23 VICE CHAIR CORRADINI: Is it -- just
24 for this, not to pick a plant, but just some
25 surrogate, is it deterministic or are they doing a

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1 risk calculation?

2 MR. G. BOWMAN: It would be
3 deterministic.

4 VICE CHAIR CORRADINI: So they're going
5 to say under these circumstances for this scenario,
6 this survives or this is workable and this is our
7 work around?

8 MR. G. BOWMAN: Right. This is a bad
9 example, but if there's a case where a licensee
10 built their FLEX storage building right by the
11 river, the plant is way up here, but they built
12 their FLEX storage building right by the river and
13 the flood washes the building away. They may be
14 able to show that the rest of the plant is not
15 affected, that you have -- you're able to maintain
16 your diesels, that kind of thing, and they take a
17 specific flood focus to their mitigating strategies
18 assessment.

19 VICE CHAIR CORRADINI: So scenario
20 specific?

21 MR. G. BOWMAN: Yes, yes. And then
22 targeted hazard mitigating strategies, THMS, Path 5
23 would be used in cases where the flood is so
24 severe, the reevaluated flood is so severe that the
25 licensee may need to take like some unconventional

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1 measures to mitigate the event, things like moving
2 the spent fuel pool, allowing the containment to
3 flood. It's expected to be rarely used, but it's a
4 case where you're maintaining key safety functions
5 through unconventional measures.

6 CHAIRMAN STETKAR: You're not
7 necessarily maintaining all key safety functions.

8 MR. G. BOWMAN: Containment may be one.
9 That's correct. That is correct.

10 CHAIRMAN STETKAR: That is an important
11 concept.

12 MR. G. BOWMAN: Yes. Thank you.

13 CHAIRMAN STETKAR: It would be the
14 equivalent of people doing things like self-induced
15 station blackout in response to some sort of
16 nominal fire scenario which might not necessarily
17 be all that prudent in terms of overall plant
18 safety or risk.

19 MR. G. BOWMAN: So flooding is the
20 relatively more straight forward part of this. If
21 you go to Appendix H, we talk about seismic.
22 Seismic is a little bit different. There are also
23 five paths. Path 1 is used in cases where the
24 reevaluated seismic hazard is bounded by the design
25 basis. And that's fairly straight forward in terms

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1 of how you screen out of that.

2 The remaining paths are determined
3 based on the seismic exceedance compared to the
4 design basis seismic hazard. So in cases where
5 there are exceedances in the high-frequency range,
6 licensees are required to do a high-frequency
7 evaluation essentially where they look how the
8 seismic event affects relays and things like that,
9 things that are susceptible to high-frequency
10 vibration.

11 Path 3 essentially looks at a
12 comparison of the IPEEEs that were done and then
13 fills in gaps based on what the reevaluated seismic
14 hazard is.

15 Path 4 does an expedited seismic
16 evaluation process type approach where licensees
17 would essentially look at gaps from the ESEP to the
18 reevaluated hazard.

19 And then Path 5 are the SPRA plants
20 that have to do a full seismic probabilistic risk
21 assessment. So my guess is there are going to be
22 questions on that and if there are, I'd be happy to
23 call Eric back to the microphone.

24 VICE CHAIR CORRADINI: Can I just ask a
25 simple question?

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1 CHAIRMAN STETKAR: You may.

2 VICE CHAIR CORRADINI: So in your
3 little decision diamond, the GMRS is greater than
4 the SSC, but less than IHS. Remind me what IHS is.

5 MR. G. BOWMAN: Eric, correct me if I'm
6 wrong, but that's a seismic hazard from the IPEEEs?

7 MR. E. BOWMAN: IHS is the IPEEE hazard
8 spectrum. It's the capacity that was shown for the
9 plant to have two safe shutdown paths in the IPEEE
10 process.

11 VICE CHAIR CORRADINI: Can you say that
12 again, please?

13 MR. E. BOWMAN: IHS is an acronym. It
14 stands for IPEEE Hazard Spectrum. It's a bounding
15 capacity that's been shown for seismic demand that
16 the plant has two safe shutdown paths for it. It
17 was developed during the IPEEEs.

18 VICE CHAIR CORRADINI: Okay. And so in
19 Path 3 if I'm bounded by that, that implies I'm in
20 Path 4 if I exceed that?

21 MR. E. BOWMAN: Well, Path 4 is a
22 different case. We have some plants that didn't do
23 a suitable IPEEE approach that we could rely on the
24 development of the IPEEE, I think it was HPCLF
25 spectrum. So they had to -- we've got them going

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1 through and doing other demonstrations of how
2 they're going to have a safe shutdown path.

3 For Path 3, one thing that should be
4 noted as well is that spent fuel pools weren't
5 included in the IPEEE results, so there's some
6 additional work that gets done by the licensees in
7 Path 3 for the spent fuel pools and also
8 potentially for high-frequency exceedances which
9 weren't covered in the IPEEE for the IHS.

10 MEMBER RICCARDELLA: But Path 4 assumes
11 that there's an inherent margin of a factor of two,
12 correct?

13 MR. E. BOWMAN: Path 4 goes through --
14 there's a variety of different things in Path 4
15 including screening out of stretcher systems and
16 components that are inherently rugged based on, as
17 you said, how much margin there is historically in
18 the construction of those kind of items.

19 There's also a calculation for
20 fragilities to show what the capacity of the
21 equipment is for stuff that is not inherently
22 rugged. We'll no doubt be going through this in a
23 little bit more detail in the October briefing to
24 the subcommittee.

25 CHAIRMAN STETKAR: Greg, can you go

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1 back to your slide 7, please? What we spent the
2 last 15 or 20 minutes talking about is the left
3 side of this slide.

4 MR. G. BOWMAN: Correct.

5 CHAIRMAN STETKAR: It's not the right
6 side of this slide which is, in fact, the subject
7 of today's meeting. So why have we been talking
8 about paths that are not relevant to the paths that
9 we're going to be talking about?

10 In particular, there are five paths for
11 the flooding reassessments that are relevant to the
12 right side of things which are kind of, sort of
13 similar to the five paths that you just described,
14 but conceptually different in some ways. And that
15 was the genesis of my question earlier about the
16 seismic stuff because the paths, if you want, and
17 they're called paths, in NEI 16-05 for the flooding
18 reevaluations are sort of conceptually similar in
19 terms of a hierarchy of analyses as the five paths
20 that you've just explained in NEI 12-06, Appendix G
21 for the flooding.

22 And I was curious how the seismic
23 things were going to align on the right side of
24 this drawing for the seismic stuff because there's
25 a similar philosophical hierarchy, but the things

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1 that you call paths and the things that get into
2 the realm of the Phase 2 regulatory decisionmaking
3 process on the right side which is what we are
4 talking about this morning, it's important for the
5 subcommittee members to understand that. Not the
6 left side.

7 MR. G. BOWMAN: Well, the left side is
8 relevant.

9 CHAIRMAN STETKAR: The left side is
10 relevant because they're related, but as we've seen
11 in the flooding they're not -- there's not a one-
12 to-one relationship in the flooding among Paths 1,
13 2, 3, 4, 5 in the flooding guidance in NEI 16-05.
14 And the 1, 2, 3, 4, 5 you just laid out in the
15 guidance from NEI 12-06, Appendix G. There just
16 isn't.

17 I think in the flooding, for example,
18 has this thing about that only applies to
19 precipitation, for example, local intense
20 precipitation. So it's conceptually a different
21 thing than the Path 3.

22 MR. G. BOWMAN: Right, the left-hand
23 side and the right-hand side of this are not
24 completely analogous. The left side in my view is
25 important because once we're done with the left

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1 side, that will bear on whether we can impose
2 backfits on the right-hand side, additional
3 backfits. That's from my perspective that's the
4 real relevance between the two.

5 CHAIRMAN STETKAR: You look at it that
6 way. I look at it from a process -- an analytical
7 process perspective so that we understand what
8 types of analyses need to be done to get to the
9 point where you either than need to make a decision
10 about is there further regulatory action required,
11 that lower right box on this slide.

12 VICE CHAIR CORRADINI: John, I guess
13 the way he answered it, I understood. I don't
14 understand your analytical discussion. What I
15 thought he said was if I go through the left-hand
16 side, that gives me an overview of what I have to
17 come back to on the right-hand side and require
18 changes to meet the regulation.

19 MR. G. BOWMAN: So the overall goal of
20 Phase 2 is to determine whether there are actions
21 that are needed beyond mitigating strategies. We
22 need to impose additional regulatory actions.

23 So when you look at the bottom of the
24 left side, we're trying to see if there are gaps
25 that need to be filled based on our assessments on

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1 the right side, essentially.

2 CHAIRMAN STETKAR: Got it?

3 VICE CHAIR CORRADINI: No, not
4 completely.

5 CHAIRMAN STETKAR: It's only important
6 because there's confusion. For example, Pete
7 brought up this notion in the seismic area that a
8 certain type of analysis is indicated if you're
9 above your design basis ground motion response
10 spectrum, but within a factor of two. That doesn't
11 appear in any of the things you talked about. It
12 does appear somewhere.

13 VICE CHAIR CORRADINI: Right.

14 CHAIRMAN STETKAR: And it does bear on
15 how the applicants and the staff will determine
16 what eventually falls into that bottom right box.
17 Right?

18 VICE CHAIR CORRADINI: Right.

19 MR. RECKLEY: Through the development
20 of this, the general thought was in the seismic
21 area those processes are more aligned with our
22 traditional mechanisms to assess because you're
23 getting things like seismic core damage frequency
24 or seismic load.

25 The reason we get hung up so much in

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1 this discussion of Appendix H in mitigating
2 strategies and the importance of working through
3 that is as Greg mentioned that is going to
4 ultimately determine how the seismic PRA is used to
5 influence what's incorporated by mitigating
6 strategies which then, in part, defines what gap
7 may or may not exist that would be picked up as
8 part of a further backfit assessment. But the SPRA
9 itself is basically the same tool being used in
10 both columns.

11 CHAIRMAN STETKAR: Yes, on the other
12 hand when we talked about the flooding, I would
13 have thought that the same thought process would
14 apply for any type of flooding source. When you
15 got to local intense precipitation everybody
16 decided oh no, no, we can't quite treat that
17 flooding source the same as everything else. So
18 that's why I'm a bit concerned until I see how
19 everything fits together. Why everybody knows that
20 every possible seismic thing will come out okay and
21 that people won't need to suddenly decide well,
22 I've got some frequency range, frequency in terms
23 of hertz, not events per year frequency or
24 something else that oh, gee, maybe I need to treat
25 that one differently.

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1 VICE CHAIR CORRADINI: Can I ask one
2 more, I think a clarifying question? So if I were
3 to do this in a bubble, if the left-hand side was
4 the green bubble, if the green bubble was big
5 enough, then there are no gaps and there's no
6 further regulatory action on the right-hand side.
7 But if it's smaller than what the order requires,
8 the 50.54(f) letter requires, then you have to do a
9 backfit analysis on that or no? You would just
10 simply have what actions are necessary.

11 MR. G. BOWMAN: I guess the way I would
12 characterize it is so you could do a mitigating
13 strategies assessment and show that you have
14 mitigating strategies that can address the
15 reevaluated seismic -- let's say flooding hazard.
16 However, when you go and do the right-hand side,
17 you may find the flood event frequency is really
18 high, 10 to the minus 2. Do you really want
19 mitigating strategies which is really there to be
20 sort of the -- the backstop? Do you want that to
21 be the only thing you have available for flood
22 that's that high? I think that's really what our
23 focus will be on the right-hand side is figuring
24 out if there are cases like that where we need to
25 do something more because of defense-in-depth or

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1 other reasons.

2 CHAIRMAN STETKAR: But isn't it, Greg,
3 that -- and I don't know what licensees are going
4 right now, so we don't see any of this stuff. I
5 know that licensees in developing their mitigating
6 strategies interpreted the guidance as saying that
7 for an effective mitigating strategy all I have to
8 do is demonstrate that the equipment in my plant is
9 qualified for the current design basis seismic
10 ground motion. And they've done that. So I'm
11 going to use a charging pump or I'm going to use a
12 turbine-driven RCIC pump and all I need to do is
13 demonstrate that it is so-called robust for my
14 current design basis seismic hazard, current. And
15 when I say current, I mean five years ago.

16 And now they reevaluate it and it's lo
17 and behold it's twice what it used to be. In
18 principle, they could say no, I'm not going to
19 upgrade that equipment because all I had to do was
20 demonstrate that it was robust for that lower
21 seismic acceleration. So there's an example of
22 where the reevaluated seismic hazard shows a gap.

23 MR. G. BOWMAN: But the rule will fill
24 that gap. The rule requires licensees to have
25 mitigating strategies that can address the

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1 reevaluated hazard.

2 MR. RECKLEY: Going back and this is
3 all --

4 CHAIRMAN STETKAR: And it does.

5 MR. RECKLEY: We'll talk about that
6 this afternoon. Then we'll stop.

7 MR. SCHULTZ: Greg, you mentioned that
8 you thought the fundamental --

9 CHAIRMAN STETKAR: Steve, just make
10 sure you identify yourself.

11 MR. SCHULTZ: Thank you. Is the mic
12 on?

13 CHAIRMAN STETKAR: I don't know. Whack
14 it.

15 MR. SCHULTZ: I'll stay very close.
16 You mentioned that the major differences you saw
17 was frequency on the right-hand side. Is that
18 generally accepted?

19 MR. G. BOWMAN: That's just an example.
20 I'm not sure that's going to turn out to be the --
21 yes, it's hard to say what the main factors are
22 going to be until we actually see the inputs from
23 the licensees.

24 MR. SCHULTZ: On the left-hand side, if
25 you drew this completely, as you come down through

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1 changes to update plans additional inspection. Is
2 there feedback loop changes so eventually you get
3 to know additional action?

4 MR. G. BOWMAN: So what will happen if
5 it hasn't been happening already, is licensees are
6 doing their mitigating strategies assessments and
7 they're submitting them to us for review. So we
8 review what they did in response to their MSA. And
9 we respond to them with a letter saying what you
10 did was acceptable or not acceptable. And then we
11 haven't gotten to this point yet, but once the rule
12 is published and we're going and doing inspections
13 a couple years down the road, we'll be inspecting
14 to make sure that those mitigating strategies
15 assessments were implemented appropriately in the
16 field.

17 MR. SCHULTZ: So this is the regulatory
18 side chart, that is to say no, we don't find them
19 acceptable, so you need to go back and provide
20 other changes that will get you into the no
21 additional action block.

22 MR. G. BOWMAN: Right. I mean -- yes.
23 Yes.

24 MR. SCHULTZ: Okay, thank you.

25 MR. G. BOWMAN: So we were on slide 8

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1 or 9, rather. So the next two slides cover the
2 additional evaluations that are being done for
3 seismic and flooding. This is part of
4 recommendation 2-1, so it's on the left -- on the
5 right-hand side of that previous chart that we've
6 been looking at.

7 With respect to flooding, as John
8 mentioned earlier, we endorsed NEI 16-05 through
9 JLD-ISG-2016-01 to provide licensees with guidance
10 on how to conduct those assessments.

11 We've discussed this with you before in
12 detail and a little bit earlier today, but like
13 with the mitigating strategies assessments,
14 licensees use one of five paths for these flooding
15 assessments. And in this case, it depends on how
16 the reevaluated flood hazard compares to the
17 plant's design basis, rather than to the way the
18 FLEX was designed. So that's a difference between
19 what we discussed previously and what's on this
20 slide.

21 So Paths 1 through 3 are screening type
22 evaluations where licensees look at factors like
23 available physical margin between the reevaluated
24 hazard and the plant's design basis. And so Paths
25 1 through 3 essentially if a licensee completes the

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1 evaluation appropriately, they would screen out
2 from having to go to Paths 4 or 5 which are the
3 integrated assessments paths. Integrated
4 assessments consist of an evaluation of the plant's
5 performance under the reevaluated flood hazard
6 conditions with a focus on the plant's ability to
7 maintain key safety functions.

8 CHAIRMAN STETKAR: Greg, just because
9 we do have new members and don't go to it here
10 because you're on a roll, but new members, the
11 paths that Greg is talking about now on your backup
12 slides are on slide 28.

13 VICE CHAIR CORRADINI: But they're not
14 the same --

15 CHAIRMAN STETKAR: They're not exactly
16 the same.

17 MR. G. BOWMAN: And they're used
18 differently, too.

19 CHAIRMAN STETKAR: They're sort of used
20 differently, but now we're getting into the crux of
21 why we're here this morning. So if you keep that
22 slide 28 in front of you, it might help a little
23 bit. Keep going. You're on a roll. I didn't want
24 to interrupt you, but to orient people.

25 MR. G. BOWMAN: So the plants that are

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1 performing integrated assessments are the ones that
2 will be subject to Phase 2 decisionmaking, the
3 subject of this meeting. So we'll use the inputs
4 from those integrated assessments as part of our
5 Phase 2 regulatory decisionmaking process.

6 Next slide.

7 The seismic reevaluations follow a
8 similar approach where licensees are required to
9 complete certain evaluations depending on how the
10 seismic reevaluated hazard compares to the design
11 basis.

12 We issued a letter to all licensees in
13 October of 2015 providing the final screening for
14 each site. And that letter basically lays out
15 which assessments each licensee has to do depending
16 on their reevaluated seismic hazard.

17 As of today, around 20 plants will need
18 to SPRAs, seismic probabilistic risk assessments.
19 And those are the sites that will be subject to
20 Phase 2 decisionmaking as part of Phase 2
21 regulatory decisionmaking.

22 MEMBER BALLINGER: Is there an MO
23 number for that letter?

24 MR. G. BOWMAN: Yes. I can get it. I
25 can send it out to Kathy.

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1 Next slide, Bill.

2 So similar to what we discussed before
3 at high level the goal of Phase 2 is to determine
4 whether the licensee's 50.54(f) letter response was
5 adequate and that no further regulatory actions are
6 needed or whether we need to backfit a licensee to
7 impose new requirements to protect against the
8 reevaluated flooding or seismic hazard.

9 Next slide, Bill.

10 So our underlying foundation or premise
11 or going-in position with Phase 2 is that the
12 information we're getting from these reevaluated
13 hazard evaluations isn't fundamentally different
14 from any new information we get as part of routine
15 business. And that because of that, we can and
16 should use existing regulatory processes to assess
17 that information.

18 In this case, we're pointing up,
19 setting up a two-step process based on the guidance
20 in a document called LIC-504. That's an inter-
21 office instruction that was developed after the
22 Davis-Besse head degradation, specifically focused
23 on looking at new or emergent issues and providing
24 a process for evaluating those.

25 So we'll set up a senior management

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1 review panel that will be responsible with support
2 from the technical staff for evaluating the results
3 of the in-grade assessments and SPRAs to determine
4 whether the 50.54(f) letter can be closed or
5 whether we need to conduct a formal backfit
6 analysis.

7 The panel will essentially provide
8 another screening function where we screen out the
9 plants that clearly will not be eligible for
10 backfit and move the ones that are eligible for
11 backfit into that process.

12 Next slide, Bill.

13 So this slide provides some of the
14 factors that will be considered by the senior
15 management review panel. They're taken directly
16 from LIC-504. I guess the one thing I would note,
17 we briefed you a number of times on the tier 2 and
18 tier 3 recommendations. The process we're
19 proposing to use here is very similar to the
20 process we used for the tier 2 and tier 3
21 recommendations. We didn't lay it quite that
22 explicitly in tier 2 and tier 3, but we used a very
23 similar process where we had senior managers
24 reviewing each of those recommendations and
25 approving our disposition path. So it's not --

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1 this is not anything new actually.

2 MR. SCHULTZ: Greg, can you describe
3 what you have in mind with regard to that senior
4 management panel, the number of managers --

5 MR. G. BOWMAN: The next slide actually
6 will get into that.

7 MR. SCHULTZ: Great. Thank you.

8 MEMBER RICCARDELLA: To some extent
9 we're dealing with the right-hand side of that
10 chart. These actions would occur even if Fukushima
11 had never happened, right? In fact, the seismic
12 had already been started before Fukushima.

13 MR. G. BOWMAN: Yes, that's true.

14 CHAIRMAN STETKAR: Started in the sense
15 that somebody was trying to figure out what color
16 of paint they might think about doing something
17 with eventually. It was kind of started, yes.

18 MR. G. BOWMAN: So Steve, in response,
19 direct response to your question the senior
20 management review panel will consist of division-
21 level managers from the Division of Risk
22 Assessment, the Division of Operator Reactor
23 Licensing and Japan Lessons Learned Division in NRR
24 with support from other division-level managers if
25 needed. So that's generally the composition of the

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1 panel.

2 I expect the panel will get a
3 significant amount of support from the technical
4 staff, primarily JLD, DRA, and the Division of Site
5 Safety and Environmental Analysis and NRO, so our
6 hydrology and seismic experts.

7 The technical staff will essentially be
8 responsible for screening the integrated assessment
9 and SPRA results and making a screening
10 recommendation to the panel. Uncertainty will be
11 an important factor in the decisionmaking of the
12 panel, particularly with respect to flood event
13 frequency which there's a fair amount of -- there
14 will be a fair amount of uncertainty on what we get
15 from licensees in that area.

16 We'll also consider available warning
17 time in the case of flooding, actions that could be
18 taken in response to a food event if you know it's
19 coming. The fact that you have mitigating
20 strategies that will be designed for the
21 reevaluated hazards, those are all things that will
22 be considered by the senior management review panel
23 with sort of advice from the technical staff.

24 And the output from the panel will be
25 either a closeout letter documenting that the

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1 licensee has adequately responded to the 50.54(f)
2 letter or a referral to the backfit process for a
3 complete evaluation which I'll now turn it over to
4 Bill to discuss.

5 MR. RECKLEY: And as Greg mentioned,
6 the backfit process is pretty well established.
7 And we'll be using existing guidance for that,
8 Management Directive 8.4 and NRR Office Instruction
9 LIC-202 is where the guidance is provided.

10 Just as background and we've given this
11 discussion numerous times as Greg mentioned as
12 we've gone through the regulatory decisions on
13 other Fukushima items, but the purpose of a backfit
14 analysis is to determine first of all is there a
15 substantial increase in the overall protection to
16 public health and safety or common defense and
17 security by a proposed fix to an issue. And
18 secondly, is the direct and indirect costs of
19 implementing that backfit justified in view of the
20 protection that would be provided.

21 CHAIRMAN STETKAR: Bill, before you get
22 into this and this is important for everybody's
23 understanding of the process. I had a question and
24 I was going to wait, but let me get out of the way
25 first. In Section 4 about -- of the draft guidance

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1 here, there's a statement that says that the
2 backfit analysis apparently applies to escalation
3 of something from a regulatory commitment to a
4 regulatory requirement. Is that -- I don't -- how
5 does that work? If I'm a licensee and I have a
6 regulatory commitment, I've committed to do X and
7 now you're going to require me to do X, you have to
8 do a backfit analysis on that?

9 MR. RECKLEY: Let's take either the --
10 either hazard and as part of the dialogue as we go
11 through mitigating strategies, the licensee --

12 CHAIRMAN STETKAR: I'm hanging up on
13 why a backfit analysis is needed to -- it's cast in
14 the terms of --

15 MR. RECKLEY: An escalation.

16 CHAIRMAN STETKAR: Of an escalation
17 from a commitment to a requirement.

18 MR. RECKLEY: So they do -- in doing
19 their assessments, either the integrated assessment
20 or the seismic PRA, they identify something that
21 they say gee, this is an issue, we can fix it and
22 we're going to take it upon ourselves to do and
23 then their submittal of the SPRA or in the
24 submittal of the integrated assessment they say and
25 we're making a regulatory commitment to do this

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1 action.

2 CHAIRMAN STETKAR: And let me take a
3 specific example. I've committed to implement
4 severe accident mitigation guidelines, SAMGs. I've
5 made a commitment to do that. We've been told
6 every licensee has made that commitment. It's a
7 voluntary commitment, but it's a commitment for a
8 formal letter.

9 Now because of their analysis, someone
10 makes the conclusion that whoa, the human actions
11 are so important and the guidance for those actions
12 in the SAMGs are so important that for you, your
13 particular plant, we are going to require you to
14 have those SAMGs. Why is a backfit analysis needed
15 for that?

16 MR. RECKLEY: Because the regulatory
17 action that we'd be taking is to take a regulatory
18 commitment and to make it either most likely if
19 it's plant specific it's going to show up as a
20 licensed condition. So we're going to take a
21 regulatory action to issue an order to take what
22 you said you would do voluntarily and we're now
23 going to make it a regulatory requirement. That's
24 an action by the NRC. That's an action that
25 requires a backfit assessment to say whether the

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1 benefit of that action would be warranted.

2 MEMBER BLEY: Just from John's
3 question, to me, that includes a cost benefit
4 examination.

5 MR. RECKLEY: Yes.

6 MEMBER BLEY: But if it's already a
7 commitment, I don't incur any more costs or do I
8 because you make it a requirement?

9 MR. RECKLEY: You may not.

10 MEMBER BLEY: NRC might have --

11 MR. RECKLEY: The difficulty and the
12 reason we don't -- we put that in because it is
13 hypothetically possible.

14 CHAIRMAN STETKAR: But I hung up on --
15 I thought I understood backfit analyses until I
16 came across that specific example.

17 MR. RECKLEY: The difficulty you get in
18 when you actually get into the grass on these
19 things is yes, the cost to the licensee may be
20 minimal because they've already committed to do it.
21 The safety benefit is also minimal because you're
22 evaluating not necessarily the change in the plant,
23 but what added confidence do you get by changing
24 its regulatory treatment? And in many cases that
25 will be very small. And so it is an action that's

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1 hypothetical, but again, we don't do it very often
2 and -- but for completeness, we wanted to put in.

3 Going back to Greg's example. If a
4 licensee were to say we've identified a flood and
5 it is a fairly frequent flood, and we're going to
6 take this action beyond mitigating strategies and
7 we looked at it and say well, geez that is a high-
8 frequency event. We don't feel comfortable with it
9 either being not address or being addressed as a
10 regulatory commitment. We might consider
11 escalation.

12 MEMBER BLEY: One more question from me
13 on this. As a licensee, I make a regulatory
14 commitment. NRC can still inspect or audit and
15 make sure you're doing that, right?

16 MR. RECKLEY: Yes. And again --

17 MEMBER BLEY: This is a fine line here.

18 MEMBER RAY: And it's way down in the
19 licensing grass.

20 CHAIRMAN STETKAR: Thanks, but I think
21 it's a fine legal line.

22 MR. RECKLEY: The difficulty you get
23 into, Dennis, in that particular case, if a
24 licensee actually committed to do it and we found
25 that they didn't do it --

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1 CHAIRMAN STETKAR: You couldn't enforce
2 it.

3 MR. RECKLEY: No, we could. We could
4 actually issue an order and they wouldn't have to
5 do a backfit analysis because they have said that
6 they would do it. And it would be a compliance --
7 we could use the compliance exception. We'd still
8 have to do an evaluation of the backfit. It's
9 still a backfit and we have to do an evaluation of
10 the backfit, but we wouldn't have to do a cost
11 benefit analysis. So this is, again, it's all
12 interesting kind of stuff to a licensing guy, but
13 this is stuff that we don't do.

14 CHAIRMAN STETKAR: And thanks because
15 it helps me a little bit and I stumbled because you
16 called it out as a specific example in there I
17 wanted to make sure I understood the nuance of it.
18 Now you can go back to the general thing. Sorry.

19 MR. RECKLEY: And in actually doing the
20 backfit analysis again, one of the -- the first
21 test is whether there's a substantial safety
22 benefit that would be provided by a change to the
23 plant or plant procedures to address an issue.

24 The backfit guidance uses the
25 subsidiary goal of core damage and these are the

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1 values out of the guidance, 10 to the minus 4, we
2 would say that's a high priority because that
3 likely means that that single event or that single
4 issue is challenging the safety goal itself, the
5 overall aggregate safety goal.

6 Somewhere between 10 to the minus 4 and 10 to the
7 minus 5, we evaluate it further. And if it's less
8 than 10 to the minus 5 that means it's going to be
9 a small fraction contributing to the overall safety
10 goal and therefore we can terminate the assessment.

11 A graph you've seen as we went through
12 some of the other Fukushima items was that the
13 subsidiary goal is a simpler term and it was
14 derived from the overall QHO based on some
15 assumptions, but we can look at the QHO itself and
16 in other areas like the containment protection and
17 release reduction, the containment events for BWR.
18 For plants other than Mark 1s and 2s we use this
19 graph. We use a similar graph for the expedited
20 transfer of spent fuel where you might want to look
21 at other factors but beyond the core damage
22 frequency.

23 CHAIRMAN STETKAR: Bill, there is and
24 you've highlighted core damage and everybody always
25 thinks core damage is everything. There in fact in

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1 NUREG/BR-0058, the actual details of your guidance
2 is a little matrix that talks about both core
3 damage and conditional containment failure
4 probability, so there's this notion of not only
5 core damage, its offsite releases are also
6 important.

7 I think that's an important concept,
8 especially if you listened to my earlier rant about
9 targeted mitigating strategies. How are licensees
10 now expected to address both of those issues? For
11 example, if I have a targeted strategy that opens
12 up my containment for a particular flood, are they
13 supposed to address how they can reestablish
14 containment or do they just say well, I'll never
15 have core damage so therefore I don't need a
16 containment? And how does the staff address that
17 in the context of both of those metrics?

18 MR. RECKLEY: It's a good example of
19 how you might end up going to a graph like this
20 versus a simple CDF graph because one of the
21 important things to understand about targeted
22 hazard in the flooding area is it's not as if the
23 only action that they're taking is to open the
24 containment and therefore lose a barrier. They are
25 also going to be in the examples we've seen

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1 depressuring the reactor coolant system, making
2 sure you have mitigating strategies in some of the
3 examples, even moving the fuel out of the core into
4 the spent fuel pool if you have for some of these
5 flooding scenarios a week's warning.

6 MR. G. BOWMAN: But I think the bottom
7 line is that we will follow the backfit rule, and
8 we will be looking at containment -- conditional
9 containment failure probability along with core
10 damage frequency in our assessment of the Path 4
11 and 5 submittals, so if a licensee submits a Path 5
12 submittal that has containment defeated and the
13 likelihood of the core damage frequency is so high
14 that we need to take some other action, then we
15 would consider that as part of the Phase 2.

16 CHAIRMAN STETKAR: Let me try it from a
17 little different perspective, since I am not
18 getting headway this way. People will be using
19 risk assessments in -- in -- for at least Path 5
20 evaluations for both fire, flooding, and seismic.
21 So in -- in my simple-minded notion, this is a
22 risk-informed decision-making process. I have risk
23 information, and the staff and the licensees will
24 use that information to inform a decision, either
25 about making changes to the plant, or should I --

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1 should I impose additional regulatory requirements?

2 We have guidance on -- on risk-informed
3 decision-making, Regulatory Guide 1.174. It says
4 you need to look at the quantitative information
5 that comes out of a risk assessment. You need to
6 consider the uncertainties. You need to consider
7 things like both large release frequency, large
8 early release frequency, and core damage. And you
9 need to consider things like defense-in-depth.

10 So how are we going to consider
11 defense-in-depth in this risk-informed decision-
12 making process?

13 MR. RECKLEY: Defense-in-depth, when
14 you get into backfit space, is handled more in the
15 how you address an issue than whether or not you
16 have to address the issue. The backfit assessment
17 is done, the substantial safety test is basically
18 can you prevent or can you mitigate, and either one
19 of those is acceptable approaches.

20 If you identify that it is a
21 substantial safety issue warranting an action, and
22 the focus up to that point has been prevention,
23 let's say, it may make sense for a licensee and the
24 staff to lean towards mitigation as a part of a
25 defense-in-depth measure, or vice versa. But in

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1 terms of doing the backfit assessment, the -- the
2 lack of defense-in-depth is not in and of itself
3 enough to justify taking the action.

4 CHAIRMAN STETKAR: But it -- but it
5 would be if you considered the full matrix in the
6 guidance where it says that if the -- if the
7 conditional containment failure probability is 1,
8 you get elevated to a higher level of scrutiny.

9 MR. RECKLEY: Right.

10 CHAIRMAN STETKAR: But I haven't heard
11 you saying that you're going to do that or there is
12 an expectation --

13 MR. RECKLEY: And --

14 CHAIRMAN STETKAR: -- that licensees in
15 their analyses need to address that so that you can
16 look at it.

17 MR. RECKLEY: And again, I think if you
18 go down for example this, that would have not just
19 core damage, but how they hold release mechanism,
20 that's the idea of going through this kind of a
21 logic, as we went through for some of the other
22 Fukushima items. And if you go through there, it
23 includes the initiating event, the consequence of
24 the initiating event, for example, the loss of your
25 safety-related equipment in the case of some

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1 floods. Then the potential opening of the
2 containment comes up in the next step where you
3 look at the failure or the actions taken as part of
4 mitigating strategies.

5 We were remiss in reminding people,
6 mitigating strategies does have a containment
7 component to it, and --

8 CHAIRMAN STETKAR: Mitigating
9 strategies does.

10 MR. RECKLEY: I got it, that's the left
11 side of the picture. I'm talking about the
12 analyses that are done on the right side. But
13 keeping in mind, when we're doing the backfit
14 assessment, we are taking -- we are incorporating
15 the fact that mitigating strategies is a regulatory
16 requirement, and so it is credited in the third
17 block down. What is the chance that mitigating
18 strategy is going to be effective?

19 CHAIRMAN STETKAR: Am I wrong to say
20 that the guidance, however, says for some targeted
21 strategies, you can do away with that requirement
22 to maintain containment, even though it is over on
23 the left side?

24 MR. G. BOWMAN: So when you look at
25 Bill's -- at the flow chart Bill put together, you

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1 get to the very last block on the flow chart,
2 individual latent cancer fatality risk, the fact
3 that you open the containment bears on that, the
4 end result of his assessment, right? And I agree
5 completely with what you're saying. That makes --

6 CHAIRMAN STETKAR: My only question, I
7 understand this, I understand the matrix, what I'm
8 asking is now that we're getting down into the
9 decision-making process for these particular
10 analyses, is there an expectation by the staff that
11 each licensee as part of their evaluations shall
12 address all of these elements? In other words, so
13 that you have some notion of -- without necessarily
14 quantifying what the latent cancer fatality risk is
15 -- that you have some notion of, on my now plant-
16 specific, in some cases scenario-specific,
17 analyses, what the frequency of core damage is and
18 the conditional likelihood, given that scenario
19 that I don't have any containment? Is that an
20 expectation? Because if I know -- if I, as a
21 licensee, know that going in, well, I organize my -
22 - my analyses so that I can answer that question.

23 MR. RECKLEY: It is in that it will be
24 considered. The challenge in the flooding area is
25 in many cases, the numbers, if you're looking for

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1 the numbers, the numbers may not be there. The
2 argument will be there for these things, but not --
3 not necessarily the numbers.

4 CHAIRMAN STETKAR: Well, when you say
5 the argument will be there, do I know that? Do I
6 as a licensee preparing my -- doing my analysis --

7 MR. RECKLEY: Yeah.

8 CHAIRMAN STETKAR: -- I'm launching off
9 now into how am I going to structure my analyses,
10 what is my strategy for each of those --

11 MR. RECKLEY: I believe --

12 CHAIRMAN STETKAR: -- analyses?

13 MR. RECKLEY: -- I believe that that is
14 addressed in what would be in the integrated
15 assessment, and specifically, for the targeted Path
16 5, what licensees will be providing.

17 CHAIRMAN STETKAR: Not only for the
18 targeted, but even the risk -- the PRA base
19 evaluations, which isn't necessarily -- targeted is
20 kind of a different notion --

21 MR. RECKLEY: Right.

22 CHAIRMAN STETKAR: -- so let me call it
23 scenario-specific risk evaluations.

24 MR. G. BOWMAN: Well I would expect the
25 licensees will submit, as part of their integrated

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1 assessment submittals, they will tell us, here is
2 the frequency of this flood that's impacting our
3 site. Here is what we're going to do to mitigate
4 the flood. Here's the other impacts. The NRC will
5 be responsible for filling in the blocks on this
6 chart. I would expect that we would reach back to
7 the licensee, you know, if we get into the formal
8 backfit process, to obtain more refined input that
9 will allow us to do that assessment.

10 CHAIRMAN STETKAR: But we're talking --
11 I am hearing things about, yeah, I would expect
12 people to do -- I would hope people are planning to
13 do that, but I will tell you that if it's not clear
14 to me, and I'm going to be spending a lot of
15 resources to do some sort of risk-informed
16 evaluation of these, quantitative evaluations of
17 flooding frequencies, particular scenario-specific
18 strategies, whatever, I don't know what people are
19 doing, knowing very clearly that you expect
20 information from me to address both core damage
21 frequency -- let me say core damage and containment
22 performance, whether I do that quantitatively,
23 qualitatively, some mixture of the two, is
24 important to me, I think.

25 I don't want to get in a process where

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1 I submit something to you, and you get down to, you
2 know, a step number 4 on here, and you say whoa,
3 gee, you didn't tell me enough about what your
4 containment is doing on these particular scenarios.
5 Please go tell me that.

6 MR. RECKLEY: Right. And again, I -- I
7 think in the flooding case, the guidance on
8 integrated assessment and what they will be
9 providing is -- is pretty clear on that. The
10 seismic PRA does -- I don't want to mislead you --
11 it does focus on core damage as the first -- as the
12 first cut at that. However, again, I think the
13 logic of that is an expectation by licensees and to
14 some degree by the staff that those numbers, when
15 we do the risk assessment, the change of core
16 damage is going to be below established thresholds.

17 If it is not, for a particular plant,
18 and then they have to start to argue something
19 beyond Level 1 PRA kind of numbers and start to
20 address Level 2 or Level 3 kind of assessments,
21 then we would be over here.

22 CHAIRMAN STETKAR: The reason I brought
23 this up is if you go back to the previous slide,
24 17, I have this traditional myopic focus --

25 MR. RECKLEY: Right.

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1 CHAIRMAN STETKAR: -- on core damage.
2 So now I get to something, I've tweaked my numbers,
3 I've done everything I can do, I've got 10 to the
4 minus 7 human error probabilities, and it comes out
5 to be 9.7 times 10 to the minus 6 core damage
6 frequency event per year, and my God, you guys
7 don't need to do a further analysis, and a
8 containment is guaranteed to fail. But I didn't
9 tell you that because you didn't tell me that I
10 needed to tell you that.

11 MR. G. BOWMAN: I think we have
12 provided adequate guidance to the industry to
13 conduct the integrated assessments. We will have
14 what we need to make regulatory decision-making.
15 Like I said before, I would expect that this is not
16 going to be a process that takes place inside a
17 vacuum, that as we work through the Senior
18 Management Review Panel, things that get to the
19 backfit analysis, there will need to be some
20 interaction with the licensees. Much of what we
21 get may be conservative, just to make things easier
22 for them to do. So --

23 CHAIRMAN STETKAR: I don't want to get
24 into arguments about the word that I hate,
25 "conservative," because that doesn't mean anything.

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1 I am talking about expectations of -- common
2 expectations so that if I am doing an analysis, I
3 understand what the staff expects me to provide,
4 and that the staff has that common expectation that
5 I don't just stop at core damage, because your
6 guidance does not stop at core damage, your
7 guidance says you need to consider both.

8 MR. RECKLEY: Yeah, and right. Okay.
9 But again, I want to --

10 CHAIRMAN STETKAR: It's an area that I
11 personally -- this is a subcommittee meeting, so
12 this is just me -- am very interested in -- in
13 having some assurance that people are going to be
14 looking at that.

15 MR. RECKLEY: And again, I don't want
16 to mislead you, because my reading of the SPRA
17 guidance is that the -- that the first cut is going
18 to be looking at seismic core damage frequency --

19 CHAIRMAN STETKAR: And -- and that is
20 my whole point, is maybe the guidance ought not to
21 stop there --

22 MR. RECKLEY: No.

23 CHAIRMAN STETKAR: -- if -- if
24 regulatory decision-making, risk-informed
25 regulatory decision-making, ought to consider not

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1 just core damage --

2 MR. RECKLEY: Right.

3 CHAIRMAN STETKAR: -- but also
4 containment failure, whether that's quantitative,
5 whether it's brought up in the context of defense-
6 in-depth, which you apparently don't treat quite as
7 well, or differently, in backfit analyses, but you
8 do have this concept, and it is in fact in your
9 guidance for backfit analysis.

10 MR. RECKLEY: No, it is, it is, and we
11 don't ignore containments, so I'll leave it at
12 that.

13 MR. G. BOWMAN: We understand the
14 comment.

15 CHAIRMAN STETKAR: Yeah, no, it's --
16 it's -- I've ranted enough.

17 MR. RECKLEY: Right.

18 CHAIRMAN STETKAR: It's on the record.

19 MR. RECKLEY: So, and basically we've
20 gone through this slide, then, through the
21 discussion. It really is more important to have
22 this concept and to use it through -- when you
23 start to consider things that are different from
24 the traditional PRA, and why we used core damage
25 frequency as a subsidiary goal, and one of those is

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1 -- is listed on the slide. The warning time
2 associated with some flooding scenarios can be
3 days, and that needs to be taken -- taken into
4 account as part of the assessment.

5 So as the process description goes on,
6 if the panel in considering these various factors,
7 both what we can do quantitatively and then also
8 considering other things qualitatively, decides
9 that there may be a substantial safety improvement
10 that is possible, the panel would then enter that
11 into the formal backfit process, and to some
12 degree, we would start over again and go through
13 another formal NRC process where we gain approval
14 of senior management, office director, inform the
15 EDO that we're proceeding down with a backfit,
16 engage the licensee at the appropriate time.

17 And as the guidance states, we would
18 start to do more detailed assessments, and if those
19 assessments affirmed the concern, we would continue
20 and impose the backfit, but at any time, the
21 assessment determines that it's not substantial, we
22 would terminate the backfit process.

23 MR. SCHULTZ: So Bill, the -- the
24 decision by the panel to move forward with the
25 process is not sufficient. The next step would be

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1 to provide a justification to the management review
2 process --

3 MR. RECKLEY: Right.

4 MR. SCHULTZ: -- rather than just --

5 MR. RECKLEY: So what --

6 MR. SCHULTZ: -- they know that it's --

7 MR. RECKLEY: Right, and again, as
8 we've set up a number of these things, just look at
9 it as a series of screening. So the panel, the
10 division-level panel, is authorized to close out
11 the issue and say they have answered the 50.54(f)
12 letter adequately, we don't see a -- a real
13 potential for going beyond that providing a
14 substantial safety improvement, then they can
15 authorize issuing the close-out letter. But if
16 they don't come to that finding and they want to
17 recommend we enter the backfit process, that then
18 goes up to the next level of management, which is
19 the office director, to say yes, go ahead and start
20 that process.

21 There are a number of things that have
22 come into play. Some of these you've been briefed
23 on, and some others, you will be briefed on
24 sometime later this year. Just as background,
25 there was a consideration following Fukushima that

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1 maybe we should look at things differently, maybe
2 we should look at different performance measures
3 when we do regulatory analyses or backfit
4 assessments. That paper was sent to the
5 Commission, SECY 12-0110, and the Commission came
6 back and basically said stick with the existing
7 QHO, focus on public health and safety, no need to
8 escalate the treatment for example of societal
9 measures like the loss of land area.

10 There was similar direction from the
11 Commission on our -- the staff's use of qualitative
12 factors. That came out of SECY 12-0157, but then
13 there was a follow-up staff paper, SECY 12 -- I
14 mean SECY-14-0087, where we gave some guidance to
15 the staff on how to consider qualitative factors.

16 We are updating guidance, including
17 NUREG/BR-0058, the Regulatory Analysis Guidelines,
18 its related technical handbook, NUREG/BR-0184, and
19 also NUREG-1409, which is the backfitting guidance,
20 which really has not been updated since the backfit
21 rule in the '80s, I guess.

22 We are looking at and we have a draft
23 NUREG-1530 escalating the -- or increasing the
24 calculation of benefits from the current \$2000 per
25 person-rem number up to \$5200 per person-rem. That

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1 is largely based on increasing the value of
2 statistical life to be more in line with what other
3 agencies are using.

4 And again, ACRS briefings are expected
5 in -- in the fall of this year on some of those
6 items, including the SECY paper increasing the
7 dollars per person-rem.

8 MR. SCHULTZ: Are all of these
9 considerations going to be reconsidered? You've
10 got a listing, so --

11 MR. RECKLEY: Well, some of them -- the
12 first two are more background. You will see
13 updates to these guidance documents like the
14 Regulatory Analysis Guidelines and 1530.

15 MR. SCHULTZ: Under the third bullet?

16 MR. RECKLEY: Yeah.

17 MR. SCHULTZ: And the fourth bullet is
18 --

19 MR. RECKLEY: Right.

20 MR. SCHULTZ: The document is
21 completed?

22 MR. RECKLEY: 1530, yeah.

23 MR. SCHULTZ: Yeah.

24 MR. RECKLEY: Right.

25 MR. SCHULTZ: The other ones are being

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1 --

2 MR. RECKLEY: The other ones are in
3 process --

4 MR. SCHULTZ: In process --

5 MR. RECKLEY: -- right.

6 MR. SCHULTZ: Thank you.

7 CHAIRMAN STETKAR: On this slide, your
8 last bullet says ACRS briefing is expected in the
9 fall of 2016. Last check I did, we're up to June
10 of next year on a subcommittee meeting. I think
11 that is correct.

12 MR. RECKLEY: I think Fred stepped out.
13 I will --

14 CHAIRMAN STETKAR: Check the -- the
15 only reason I brought it up, I don't care the
16 specific dates, but this is one of -- this meeting,
17 the briefing has been pushed over the last year
18 pretty much every schedule I see --

19 MR. RECKLEY: Okay.

20 CHAIRMAN STETKAR: -- it always slips.
21 Will you have the updated guidance in place in time
22 for these evaluations? That's -- that's the
23 salient question.

24 MR. G. BOWMAN: It sort of segues into
25 the next slide.

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1 CHAIRMAN STETKAR: Okay. Oh, okay.

2 PARTICIPANT: Nicely done, John.

3 CHAIRMAN STETKAR: Sorry, I didn't read
4 far enough.

5 (Laughter.)

6 CHAIRMAN STETKAR: Go ahead.

7 MR. RECKLEY: Okay. So the next steps
8 are we are continuing with the mitigating strategy
9 assessment reviews. The -- under recommendation 2-
10 1, we're continuing the focused evaluations, that
11 subset of plants that will not be doing integrated
12 assessments.

13 MR. G. BOWMAN: The majority of those
14 won't be submitted until the middle of '17, so we -
15 - we have some that we're working on, but it is
16 largely going to be '17 before we start in on
17 those.

18 MR. RECKLEY: Working with industry to
19 complete the Path 5 guidance for the -- in the
20 seismic area, issuing this Phase 2 guidance for
21 regulatory decision-making by the end of September,
22 and doing the plant-specific reviews in the
23 flooding area. Those submittals will be coming in
24 in 2018, and in seismic, it is staggered
25 submittals, with the first submittals beginning in

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1 2017 and going through 2019.

2 MR. G. BOWMAN: So whether the guidance
3 documents are completed by the time those reviews
4 come in is to be determined, I guess. I mean, the
5 --

6 CHAIRMAN STETKAR: I was going to say,
7 it is pretty clear -- well, I guess it's not real
8 clear, but it may come in kind of in the middle of
9 this process.

10 MR. RECKLEY: But what we would -- what
11 would -- what we would do is if any of the revised
12 guidance was relevant to the assessment, we would
13 do a sensitivity study or whatever in order to show
14 whether that was key to the decision-making, and if
15 it were, then we would -- we're going to use \$5200
16 if we have to do a cost/benefit, and we might do a
17 \$2000 and a \$5200, but we'll be making
18 recommendations on \$5200.

19 CHAIRMAN STETKAR: Okay. That's --
20 okay. Thank you.

21 (Pause.)

22 MEMBER KIRCHNER: Greg, you mentioned I
23 think 20 plants are in this seismic space. Was
24 this Step 4 or Step 5?

25 MR. G. BOWMAN: 5.

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1 MEMBER KIRCHNER: What about the
2 flooding integrated assessments? How many plants
3 are in that category?

4 MR. G. BOWMAN: It's largely up to the
5 licensees to figure out which path they go in,
6 depending on plant-specific considerations. We
7 think about 10 or 12 plants will be doing
8 integrated assessments to make it through. It is
9 largely whether they can screen out under one of
10 the other paths, but we think about 10 or 12.

11 VICE CHAIR CORRADINI: When you say 10
12 or 12, that's into Path 4 or 5?

13 MR. G. BOWMAN: That's correct.

14 VICE CHAIR CORRADINI: Okay.

15 MEMBER KIRCHNER: To follow that up
16 then, this regulatory guidance would probably
17 impact the plants in those categories --

18 MR. G. BOWMAN: That is correct --

19 MEMBER KIRCHNER: -- right?

20 MR. G. BOWMAN: -- the 20 SPRA plants
21 and the 10 or so integrated assessment plants for
22 flooding.

23 MEMBER KIRCHNER: And as John was
24 indicating, the -- the guidance is -- you're
25 already expecting these submittals?

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1 MR. G. BOWMAN: Right, the guidance for
2 actually doing the assessments has already been
3 issued.

4 MEMBER KIRCHNER: Issued.

5 MR. G. BOWMAN: So licensees I expect
6 are actively working on -- well, that's correct,
7 for most of it.

8 CHAIRMAN STETKAR: You are on the
9 public record. Most of it, except for the last
10 part of the seismic.

11 MEMBER KIRCHNER: Thank you.

12 MR. SCHULTZ: Greg, question related to
13 information you're expecting to be submitted by the
14 licensees for those that will require review by the
15 Senior Management Panel, because under the
16 considerations there in the decision process, you
17 have many different features that the panel is
18 expected to consider --

19 MR. G. BOWMAN: Yes.

20 MR. SCHULTZ: -- and I'm particularly
21 interested in the consideration of quantitative and
22 qualitative factors, and then consideration of
23 uncertainties. Is the licensee going to be
24 expected to provide sufficient information to NRC
25 that will provide those -- those data that are

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1 required to be considered, or is the staff going to
2 have to come up with information related to
3 quantitative and qualitative factors and/or
4 uncertainty?

5 MR. G. BOWMAN: So I expect that the
6 submittals we get from the licensees will give us
7 sufficient information to make decisions in that
8 area. There may be cases where we need to go back
9 to a licensee. For example, if they do a
10 calculation of flood event frequency and we have
11 questions on how they did the calculation, we may
12 need to interact with them on that, but I expect
13 that what we get from our licensees as part of the
14 integrated assessments will be sufficient for us to
15 make the Senior Management Review Panel -- to get
16 them the input they need to make a decision.

17 MR. SCHULTZ: So uncertainty
18 information will be provided, and perhaps some
19 evaluation of that uncertainty, as an example?

20 MR. G. BOWMAN: You know --

21 CHAIRMAN STETKAR: Go back to my
22 example of 9 point whatever I said, 9.97 times 10
23 to the minus 6, as somebody's best estimate,
24 whatever that means, of a number. But if there is
25 a 49 percent probability that I'm over 10 to the

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1 minus 5 and a 5 percent probability that I'm up to
2 10 to the minus 4, that is to me important
3 uncertainty information for decision-making.

4 MR. G. BOWMAN: I think that the
5 uncertainty will largely be assessed qualitatively
6 rather than quantitatively, depending on whether
7 we're talking about the SPRA plants or the
8 integrated assessment plants. There is a
9 recognition that the flooding frequency for example
10 is not -- that the state of the art is not at the
11 same place that seismic is, so I don't expect
12 licensees will be submitting a sensitivity analysis
13 associated with frequency. I think that will be
14 something that the panel reviews qualitatively
15 rather than quantitatively, but --

16 MR. SCHULTZ: Are you expecting that
17 some element of uncertainty information will be
18 provided by the licensees?

19 MR. G. BOWMAN: No, no, I don't believe
20 that will be the case.

21 MR. RECKLEY: But they will be
22 describing, for example in the flooding area, when
23 they give their assessments under that integrated
24 assessment and they give some estimate's frequency,
25 they're going to be explaining from where they got

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1 that, whether that is coming from data from let's
2 say a federal agency that -- that's considered a
3 good source, or whether it is a rough estimation, so
4 they will be describing it.

5 MR. SCHULTZ: They may have to deal with
6 a range of information.

7 MR. RECKLEY: Right.

8 MR. SCHULTZ: Okay. My second question
9 is with regard to the review process and the panel
10 decision-making, it sounds like a fairly detailed
11 and perhaps time-consuming task for the staff and
12 for the panel to perform these reviews. Is there --
13 is there some expectation or understanding with
14 regard to schedule for performing these evaluations
15 to get to the close-out letter or decision for
16 further evaluation?

17 MR. G. BOWMAN: So I -- we haven't -- we
18 haven't established the specific timelines for how
19 long it's going to take to do the reviews. I think
20 it will largely be dependent on what we wind up
21 getting from licensees. I mean, I would expect
22 within -- this is just off the top of my head -- six
23 months, we should be able to make a decision on
24 whether something needs to be passed on to the
25 backfit process or not. That would be on the long

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1 end of things. I would be surprised if we can't do
2 better than that for some.

3 You have to recognize that the SPRAs are
4 going to be coming in on a staggered basis, so that
5 does spread the work out some, at least in the case
6 of seismic. And I would expect that ultimately what
7 will happen with flooding is not every single one of
8 them is going to come in on December 31st, 2018,
9 that there will be some staggering of those, too,
10 just as licensees finish.

11 So it could represent a lot of work. I
12 mean, one of things we will need to do once the
13 guidance is finalized is -- you know, once this
14 level of guidance is finalized, is start setting up,
15 you know, some of the more -- you know, how the
16 years are going to mesh, like the development of
17 templates and things like that, to support the
18 staff. We're putting together recommendations for
19 the panel. So we'll do what we can to make the
20 reviews as easy as possible.

21 MR. SCHULTZ: And consistent.

22 MR. G. BOWMAN: And consistent, exactly,
23 thank you.

24 MR. SCHULTZ: Thank you.

25 CHAIRMAN STETKAR: In that regard, Greg,

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1 or Bill, either one of you, in -- in the draft
2 guidance that we read, there is a -- a paragraph
3 that mentions an evaluation tool in the context of
4 expediting the safety goal screening process, which
5 is a bit of what Steve was just asking about. It
6 says "The evaluation tool can be used to shorten the
7 backfit analysis if the staff concludes that a
8 possible backfit would not provide a substantial
9 safety improvement." What evaluation tool are you
10 talking about there? Is this something new that the
11 staff --

12 MR. G. BOWMAN: It's -- no, it's
13 essentially just the high-level conservative
14 screening --

15 CHAIRMAN STETKAR: Okay.

16 MR. G. BOWMAN: -- analysis, and I used
17 the word "conservative," I apologize.

18 CHAIRMAN STETKAR: I just wanted to make
19 sure it wasn't something else that you're --

20 MR. G. BOWMAN: No, no.

21 CHAIRMAN STETKAR: -- thinking about
22 developing outside of LIC-504 --

23 MR. G. BOWMAN: No.

24 CHAIRMAN STETKAR: -- this -- okay.
25 Good. Thank you.

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1 One question I had is that this
2 obviously is a -- an involved process: are we going
3 to have the benefit of seeing a couple of the first
4 examples of this so we can see how people are
5 working through all of this, both from -- we've seen
6 nothing so far in terms of what licensees are
7 submitting --

8 MR. G. BOWMAN: So from my perspective -
9 -

10 CHAIRMAN STETKAR: -- how they are --
11 you know, we hear about, yeah, we expect the
12 licensees to do this, and yeah, we certainly would
13 expect to consider these types of things. Will we
14 be able to have some early evidence of how the panel
15 is working through this process and how they reach
16 their conclusions?

17 MR. G. BOWMAN: Yeah, from my
18 perspective, that's actually where -- where you'll
19 probably have more interest than the Phase 2
20 guidance itself, is that so yes, the bottom line is
21 yes, I think there would be benefit to you all being
22 --

23 CHAIRMAN STETKAR: I think that there
24 would be real benefit, that the first one or two
25 that come in, to see how people are really working

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1 through this --

2 MR. G. BOWMAN: Because I think we
3 recognize that --

4 CHAIRMAN STETKAR: -- so that we have --

5 MR. G. BOWMAN: -- this guidance is
6 really just saying we're going to use existing
7 agency processes.

8 CHAIRMAN STETKAR: Yes, that is right,
9 okay.

10 MR. G. BOWMAN: It is how the --

11 CHAIRMAN STETKAR: How is it actually
12 implemented for these particular assessments, you
13 know, this particular process? Because there is
14 kind of a lot going on --

15 MR. G. BOWMAN: Yes.

16 CHAIRMAN STETKAR: -- and it's not as
17 straightforward as do you need to put in, you know,
18 one more auxiliary feedwater pump?

19 MR. G. BOWMAN: And it's hard to see
20 just looking at -- it's hard to see what that looks
21 like until you --

22 CHAIRMAN STETKAR: It is --

23 MR. G. BOWMAN: -- actually see the
24 submittal, so I think there would be benefit to
25 that.

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1 CHAIRMAN STETKAR: So I think we should,
2 you know, keep a dialogue going, depending on what
3 your schedule is. I really think it would be useful
4 for us, as soon as you -- the first one or two that
5 come in, whatever your schedule is, that --

6 MR. G. BOWMAN: Yeah.

7 MR. RECKLEY: I mean, if you all want to
8 pencil in, keeping in mind it's going to be 2017 or
9 2018 --

10 CHAIRMAN STETKAR: I don't care about
11 calendar time, but I don't want to get 50 percent of
12 the way into the process --

13 MR. G. BOWMAN: Right.

14 CHAIRMAN STETKAR: -- before we see it
15 because --

16 MR. G. BOWMAN: Bill and I are very
17 happy to commit --

18 CHAIRMAN STETKAR: -- that's difficult.

19 MR. G. BOWMAN: -- to this because we're
20 going to be in different jobs at the time we'd be
21 coming in, so --

22 (Laughter.)

23 CHAIRMAN STETKAR: And if I am lucky, I
24 won't be here either, but I'm just --

25 (Laughter.)

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1 MR. RECKLEY: However the practice is to
2 keep that in mind, yeah, I think that actually would
3 be where you would be able to see how this actually
4 works.

5 CHAIRMAN STETKAR: Yeah, and I am glad
6 to hear that there is not a significant pushback on
7 it, so --

8 MR. RECKLEY: No.

9 CHAIRMAN STETKAR: -- good.

10 Any of the members have any final
11 questions for Greg or Bill?

12 MEMBER KIRCHNER: So a variant on what
13 John just asked: what have you seen so far, and what
14 is your experience? Are you seeing any gaps? Are
15 you seeing any major problems in this with those
16 people who are out there on the righthand side of
17 this process, Step 4 and 5?

18 MR. G. BOWMAN: Yeah, we largely haven't
19 gotten any of those -- we haven't gotten any of
20 those submittals yet for the past four or five
21 plants. I mean, those are all coming in much later.
22 The ones that we have gotten so far have -- you
23 know, the submittals we've gotten so far for the
24 mitigating strategies assessments, for example, have
25 been -- the reviews have been fairly

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1 straightforward, but that's largely because those
2 are the ones that are bounded, the easier ones to
3 review.

4 So yes, so I expect that the harder ones
5 will be the ones we see later, and it is still too
6 soon to tell whether -- how problematic those are
7 going to be, if at all.

8 MEMBER KIRCHNER: Thank you.

9 CHAIRMAN STETKAR: Anything else?

10 (No audible response.)

11 CHAIRMAN STETKAR: If not, we'll go
12 around the table later for final comments. Let me
13 see if we can get the closed bridge line open. Is
14 there anyone in the room who would like to make a
15 comment, member of the public or otherwise?

16 (No audible response.)

17 CHAIRMAN STETKAR: If not, we'll get the
18 bridge line open and see if there are -- good, then
19 told that the bridge line is open, and I heard a
20 crackle. Someone is out there, a member of the
21 public, not one of the staff who was on a separate
22 line. Could you just confirm, just say hello or
23 something? It's the only way we can confirm that
24 it's open.

25 MS. THOMAS: Hello.

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1 CHAIRMAN STETKAR: Thank you, good. I
2 know it sounds silly, but it is -- it is our high
3 technology here.

4 Now, if there's a member of the public
5 on the line who would like to make a comment, please
6 identify yourself and do so.

7 (Pause.)

8 CHAIRMAN STETKAR: Hello.

9 MS. THOMAS: My name is Ruth Thomas, and
10 I am with several organizations, including
11 Environmentalists, Inc., which I would add has been
12 interested in following the nuclear material use for
13 energy for 45 years. And we're still asking
14 questions, and we see from this that there's the
15 close working together of industry and the NRC.

16 And it sounds like in some cases, that
17 the NRC's input comes before the industry's. And my
18 understanding of regulation, that seems like it's
19 the wrong way around. Could you explain that?

20 CHAIRMAN STETKAR: Ruth, thanks for your
21 comment. We typically don't try to elaborate on
22 things in this format orally because it doesn't give
23 us a chance for an appropriate discussion. Your
24 comment is on the record, and I know that the staff
25 will take it into consideration as part of their

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1 process for dealing with this, so I appreciate your
2 comment, but we don't typically in the ACRS
3 subcommittee meetings enter into that, but --

4 MS. THOMAS: You want comments related
5 to this particular subject matter?

6 CHAIRMAN STETKAR: Yeah, yes, and -- but
7 your comment I think is relevant in terms of the
8 timing of different decisions, both on the part of
9 the NRC staff and what is expected from the
10 industry, even on this particular matter, so that's
11 -- I think it is a pertinent comment.

12 MS. THOMAS: Well, one problem is that
13 the public is not involved in the same way, or not
14 involved to the extent, that they can -- well, for
15 example, there are a lot of members of the public
16 that don't have a computer, and there are a lot of
17 the members of the public that do have computers,
18 but work, and can't be in on these calls.

19 Now, it would be helpful, I think, if --
20 in my case, I'm working with a group -- if I had in
21 hard copy the ML. Wouldn't those ML numbers sort of
22 fill in the gaps that are in my notes from this
23 meeting?

24 CHAIRMAN STETKAR: Thank you. I can
25 make a couple brief comments here, at least

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1 regarding the proceedings of our subcommittee
2 meetings, and if this were to come to the ACRS Full
3 Committee.

4 The -- we have a transcript of this
5 meeting, so every word, depending on -- regardless
6 of how serious or flip you might think the words
7 are, every word that was said in this meeting will
8 be on a transcript. That transcript is available to
9 the public. If you have trouble finding it, you can
10 call our office here, the ACRS office, and we can
11 point you to where you can find that. It is -- it
12 is in ADAMS, and it will be accessible.

13 As part of that transcript, we also
14 always append all of the slides in the
15 presentations, so anything that was -- any visual
16 aids that we had this morning will be appended to
17 that transcript. So from that perspective, you and
18 any other members of your organization, or anybody
19 else in the public, can at least have a full benefit
20 of everything that happens in our meetings.

21 If there are --

22 MS. THOMAS: And the members and people
23 working on this that don't have computers or don't
24 have -- now we have some members that have
25 computers, but they live in an area where they can't

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1 get reception. And I don't think that has ever been
2 taken up --

3 CHAIRMAN STETKAR: Ruth --

4 MS. THOMAS: -- and I don't know how
5 extensive it is. And then there's the difficulties
6 that members have in getting on the line. And I
7 noticed that the public line was different than --
8 than the line for the industry, and so I know on a
9 number of times, I have had to get on the line
10 through going through the Public Affairs Office
11 because the number that I was given as a code number
12 didn't work. And all of these things are pointing
13 to the lack of environment, the lack of opportunity
14 for the public, and there are many people in -- in
15 the public and in the public interest organizations
16 that have a great deal of expertise and a great -- I
17 mean, it seems like they're giving free advice from
18 Beyond Nuclear and other organizations, and yet
19 these groups are not being heard to the extent that
20 needs to be -- needs to be happening because of the
21 unique materials you're dealing with.

22 I mean, this is not dealing with -- with
23 something that decays in a short while, or you can
24 put in a landfill, or that you can bury. And it is
25 just -- there is just a conflict between the way

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1 decisions are being made and the materials on which
2 you're making decisions.

3 CHAIRMAN STETKAR: Ruth --

4 MS. THOMAS: Now, I don't expect an
5 answer on that --

6 CHAIRMAN STETKAR: Well, I do want to
7 address --

8 MS. THOMAS: -- but I wanted it
9 understood by both the industry people and the
10 Nuclear Regulatory Commission, and the DOE, when
11 they are involved.

12 CHAIRMAN STETKAR: Ruth, thanks. You
13 brought up a lot of points, and we have them on the
14 transcript. We will certainly go back through the
15 transcript and read all of your comments carefully.

16 I did want to address, though, on the
17 transcript so that you're aware of it, and anyone
18 else on the line, the ACRS is extremely sensitive to
19 the need for public involvement in our process. We
20 serve a role that the NRC staff does not serve, and
21 -- and public input to our process is very
22 important, and we welcome it in any form that we can
23 get it: orally, in writing, any way.

24 We are aware of some of the difficulties
25 on calling in on our phone lines. They aren't

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1 necessarily the best technology. We're trying to
2 work on those. Access to material from our
3 meetings, because our meetings are open to the
4 public, if you're having problems getting access to
5 that material because either you don't have
6 computers or for whatever other reason, call our
7 office, the ACRS office, and we will get that
8 material to you, whether it's sent --

9 MS. THOMAS: Okay, great --

10 CHAIRMAN STETKAR: -- whether it's
11 sending out hard copies, or whatever --

12 MS. THOMAS: Is that the same number as
13 your number, or -- ?

14 CHAIRMAN STETKAR: 301-415-7360 is the
15 main number, and that number will get you to our
16 central office, and they can direct you to whoever
17 the cognizant staff member is for a particular
18 activity. And that applies to whatever we do. So
19 if you're having problems getting access to the
20 material from our meetings, that is a problem, we
21 are very concerned about that, call our number, and
22 we'll make sure you get it.

23 MS. THOMAS: All right.

24 CHAIRMAN STETKAR: And I didn't want to
25 address --

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1 MS. THOMAS: Thank you. You will be
2 hearing from me.

3 CHAIRMAN STETKAR: Good, great. And as
4 I said, we're serious about that, so we're not
5 trying to trivialize this. It is an important role
6 that we play in this whole arena as being very
7 considerate of input from the public.

8 With that, are there any other members
9 of the public on the line who would like to make a
10 comment?

11 (No audible response.)

12 CHAIRMAN STETKAR: Hearing -- hearing
13 none, I am going to close the bridge line because if
14 you think that it's really bad out there on your
15 end, you ought to hear it in here. So we'll close
16 the bridge line.

17 I believe Kathy, Ed Lyman wanted to make
18 a comment this afternoon's session, right? Yes,
19 that's right, so I don't need to worry about Ed at
20 the moment. Ed, if you're out there, I am not --
21 you'll get a chance.

22 With that, as we usually do in the
23 subcommittee meetings, a couple of things. I want
24 to go around the table and, first of all, ask
25 members for their final comments. Second of all, we

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1 do have right at the moment a -- a time slot in our
2 September Full Committee meeting for briefing of the
3 Full Committee on this topic, recognizing that
4 almost all of the Full Committee is here, but it's a
5 different process than the Full Committee meeting.

6 So as we go around the table, I will
7 also ask you whether you think we should bring it to
8 the Full Committee, and -- and of course, the Full
9 Committee can decide to write a letter or not write
10 a letter on the topic.

11 So if you have any final comments, and
12 any particular input on should it go to the Full
13 Committee or not, I would appreciate that. And I'll
14 start with Joy.

15 MEMBER REMPE: I appreciate your
16 presentations and efforts. It doesn't hurt to keep
17 the Full Committee involved, even though we're only
18 missing one member, so I don't have any opposition
19 to having it at the Full Committee. I am not sure
20 how busy the schedule is, so I guess I don't have a
21 strong opinion on that at this point either.

22 CHAIRMAN STETKAR: Thanks. Charlie?

23 MEMBER BROWN: Yeah, I don't have any
24 problem with the Full Committee hearing it. I am
25 not sure a letter was required based on --

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1 CHAIRMAN STETKAR: Full Committee
2 decides whether it's --

3 MEMBER BROWN: I understand that, I just
4 -- if you're asking --

5 CHAIRMAN STETKAR: This is just --

6 MEMBER BROWN: I thought you were asking
7 for an opinion, so I was going to give one.

8 CHAIRMAN STETKAR: Just do we bring it
9 to the Full Committee or not?

10 MEMBER BROWN: I don't have any
11 objections, if we have room on the schedule. It's
12 probably not a bad idea.

13 CHAIRMAN STETKAR: Walt?

14 MEMBER KIRCHNER: I'd see no reason not
15 to. I think it might be much more useful if they
16 have some actual submittals, and they have been
17 working through that evaluation process, it might be
18 much more informed at that point.

19 CHAIRMAN STETKAR: Well, in particular,
20 what's on the -- if it comes to the Full Committee,
21 what the Full Committee would be deliberating on is
22 strictly the draft guidance that we received in
23 support of this meeting, so the draft guidance on
24 how the staff would proceed through on the Phase 2
25 regulatory decision-making, not anything other than

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1 that.

2 Jose?

3 MEMBER MARCH-LEUBA: Yeah, I have no
4 comments to the presentations today. They were very
5 good. I think the Full Committee should consider
6 writing a letter because this is an important
7 procedure, so I would forward it to the Full
8 Committee.

9 CHAIRMAN STETKAR: Thank you. Pete?

10 MEMBER RICCARDELLA: Yeah, I don't have
11 any comments on what we have seen today. And as for
12 Full Committee, I'd really like to see it a little
13 further along before we address it at Full Committee
14 and decide whether to write a letter or not.

15 CHAIRMAN STETKAR: Okay. Dennis?

16 MEMBER BLEY: No additional comments.
17 Thank you, gentlemen, for the presentations. If I
18 go back and think both the left hand and right hand,
19 even though we're talking right hand today, the one
20 area where we have some discomfort, we've already
21 commented on, and I don't see any real need to take
22 this to the committee until we get a little more
23 polished here.

24 CHAIRMAN STETKAR: Thank you. Dr.
25 Corradini, sir? Notice how well I treat you?

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1 VICE CHAIR CORRADINI: Thanks. Thanks.
2 I don't have any further comments for the
3 presenters. Thanks for the information. I think
4 that I would agree with Dennis that we're not far
5 enough along to bring it to the Full Committee. I'd
6 like actually -- I would rather have a subcommittee
7 where I could see some details of some examples.
8 And that's it. Thanks.

9 CHAIRMAN STETKAR: Dick?

10 MEMBER SKILLMAN: Greg and Bill, thank
11 you. I have no further comment. Relative to Full
12 Committee, I think we should wait until we have more
13 information, have a subcommittee, have some more
14 information to deliberate, and then decide what to
15 do. Thank you.

16 CHAIRMAN STETKAR: Harold?

17 MEMBER RAY: I have no further comment
18 either, and I agree that we should -- it is too
19 soon, I believe, to bring it to the Full Committee.

20 CHAIRMAN STETKAR: Margaret?

21 MEMBER CHU: I echo with some of the
22 other members to wait until we have more specific
23 information to bring it to the Full Committee.

24 CHAIRMAN STETKAR: Thank you. And Ron?

25 MEMBER BALLINGER: I thought the

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1 presentation was Outstanding with a capital O.
2 Thank you very much. And I think that it's probably
3 more appropriate to wait until we have more
4 information before we come to the Full Committee.

5 CHAIRMAN STETKAR: Thank you. Again,
6 despite my ranting, I think you guys pulled this
7 stuff together quite well, and I really appreciate
8 the effort you put into doing that.

9 My personal opinion kind of aligns with
10 I think what you have heard around the table, that
11 it is not apparent what benefit would accrue from
12 bringing this to the Full Committee, regardless of
13 whether or not the Full Committee decided to write a
14 letter. I will ask you if -- if we don't bring it
15 to the Full Committee, that means the ACRS will not
16 formally provide any feedback to the Commission on
17 this particular element of the process. Is that a
18 problem for the staff?

19 MR. G. BOWMAN: It shouldn't be, no.

20 CHAIRMAN STETKAR: Okay. That's -- I
21 just wanted to make sure. I didn't want to ask you
22 that first, but, you know, we -- obviously, if you
23 said, oh my God, no, we need -- we actually feel we
24 need it. Good. So we'll decide as a subcommittee
25 not to recommend that it be on our September agenda.

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1 It will give you guys some extra time to work on
2 things.

3 And if there is no further discussion,
4 we will recess because this is actually part of the
5 same subcommittee meeting, but we will recess until
6 1 o'clock because we've noticed the time, and we do
7 have members of the public who may be interested in
8 particular in the rulemaking part of the discussion,
9 so I don't want to start that before 1 o'clock and
10 not give them the opportunity to hear it. So we are
11 recessed until 1 o'clock.

12 (Whereupon, the above-entitled matter
13 went off the record at 10:22 a.m. and resumed at
14 1:01 p.m.)

15 CHAIRMAN STETKAR: The meeting will now
16 to come order. I guess all I have to say is we're
17 back in session, because it's the same meeting.
18 It's just a continuation of the Subcommittee, all-
19 day subcommittee meeting.

20 But this afternoon we're going to hear
21 about changes to the draft rule language for the
22 mitigation of beyond design basis events rulemaking
23 that changes have been made since we last saw the
24 rule language and hear about public comments, I
25 believe, how the staff plans to address them.

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1 Without further ado, I'll turn it over to Mike
2 Franovich, for some introductory comments.

3 MR. FRANOVICH: Thank you Chairman
4 Stetkar and good afternoon ACRS members. As the
5 Chairman had noted, we have -- we're here today as a
6 staff to provide the committee, the Subcommittee an
7 update with where we are with revising the proposed
8 rule and addressing the public comments that we have
9 sought and achieved or gain back in the earlier part
10 of this year.

11 The MBDBE rulemaking is perhaps one of
12 the most comprehensive or complex rulemakings we've
13 seen since the security rulemaking in Part 73. It's
14 got a lot of moving parts to it and we did get
15 numerous comments. So fortunately today, we do have
16 our two subject matter experts to walk us through
17 some of those details. We had the ACRS comments in
18 the past and a lot of interactions with the full
19 Committee and the Subcommittee. We really
20 appreciate those.

21 Of course, over the next few months we
22 do have additional meetings scheduled to get into
23 more of the details and the supporting guidance that
24 goes behind this very comprehensive rulemaking.

25 One of the key features I think I shall

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1 note at this point, we did receive comments about
2 implementation, given the comprehensive nature of
3 the rule and whether that implementation schedule
4 should be more flexible.

5 We are working with industry to come up
6 with a process to address that flexibility, given
7 the reevaluated hazards are for some facilities
8 taking a little bit longer than originally
9 estimated. But given all those facts, we are still
10 on track to deliver the final rule to the Commission
11 by the end of the year.

12 So that is really what we want to leave
13 you with, given all the comments and the changes.
14 We did provide a track change version of the rule.
15 That's a little difficult to follow in redlines and
16 strikeouts. So unfortunately we'll have Tim read
17 and Eric Bowman walk us through the details. So I'm
18 going to turn it over to Tim. Thank you very much.

19 MR. REED: Thanks Mike. As Mike said
20 I'm Tim Reed, project manager and also heavily
21 involved with the development of this rule and Eric
22 Bowman, who's the expert on just about anything in
23 this rule. Also, I want to mention also Howard
24 Benowitz, who's another really important cog here.
25 The three of us are really trying to drive this

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1 thing to the finish line.

2 So as we mentioned, we can go to Slide
3 2, really what I'm here today to do is to try to get
4 the feedback from this committee. Last time we were
5 here, I mentioned that it would be good to meet in
6 the summer, to try to talk about these comments, the
7 substantive comments and get your feedback at this
8 point in time.

9 That allows us to really give it some
10 meaningful consideration, rather than wait until
11 concurrence process, when realistically we can't do
12 a whole lot in something that's a 1,000 pages. So
13 that's what we're here to do, get your feedbacks and
14 then we can give it consideration as we move
15 forward.

16 So that's the purpose, and it's on the
17 substantive comments, and I provided the draft final
18 rule with comment bubbles there, because that
19 illustrates kind of a real illustration of how you
20 take these comments and how you address them and how
21 they folded into the rule as it was -- we would do
22 right now. Of course this will change, but it's how
23 it would happen right now.

24 So that gives you a better feel, both in
25 terms of regulations. Those notes are kind of like

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1 almost a statement of considerations light if you
2 will. There would be kind of thoughts, a lot
3 cleaner, better written thoughts in those of course,
4 in the *Federal Register* notes with the final rule.

5 But I wanted to give the committee as
6 much information as possible, so you could
7 understand where we're at and where we're moving
8 forward so I can get some meaningful input.

9 So the background slide here. I'm going
10 to apologize. I know we have a few members here
11 that are new and I feel for you.

12 VICE CHAIR CORRADINI: So if you could
13 slow down, then that would be okay.

14 MR. REED: Okay. I'll try. I'll slow
15 down and just keep yelling at me to slow down,
16 because I go way too fast. I apologize for that.

17 MR. E. BOWMAN: Before Tim goes too much
18 further, I just wanted to clarify. When we talk
19 about the comments that we're going to be discussing
20 today as being the substantive comments that we
21 received on the rulemaking, we do not mean to
22 minimize the value of the other comments that we
23 received from all the stakeholders.

24 We were struggling with a good adjective
25 to use for the comments that either caused us to

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1 rethink our approach to the problem in drafting the
2 regulatory language, or where we had comments from
3 stakeholders that were in conflict. So we had to
4 decide what is the right way to go ahead with it.

5 We did get a lot of other good, valuable
6 comments from other stakeholders that we won't be
7 discussing because they seemed fairly
8 straightforward, and these were the ones that we
9 felt that we needed alignment with our -- internally
10 with the staff as well as the input from the
11 committee to proceed forward and achieve the
12 delivery of the rule to the Commission by the 16th
13 of December.

14 MR. REED: As we go along, if something
15 is confusing, we'll try to help out. Eric has been
16 involved with Fukushima literally since Day 1 or 2.
17 I've been involved since the NTFF handed their
18 report to the Commission. So we've both been in
19 this thing the whole way pretty much. So we do have
20 a lot of history in addition to what's here, and
21 we'll try to fill you in if we can. It's a massive
22 amount of information now in this rulemaking.

23 So a little background here. We are
24 actually in the final rulemaking stage, and if you
25 haven't been involved with rulemaking, it's a pretty

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1 elaborate process where you have a Regulatory Basis
2 Stage, then a proposed rule stage with all the
3 supporting analysis and draft guidance that goes up
4 to the Commission.

5 The Commission deliberates, issues an
6 SRM. We reacted to that. We fixed the package. We
7 put it out for public comment on Friday, November
8 the 13th of 2015. We did for a 90 day comment
9 period. That's longer than normal. We usually do
10 it for 75 days. So that comment period closed on
11 February 11th.

12 We got 20 comment submissions comprising
13 something like about 100 comments or thereabouts.
14 Our comment response document is something around
15 110 or 12 pages. So it's a lot of good material.
16 As Eric mentioned, it's really great comments that I
17 think are going to help us get to the finish line
18 and produce a really good rule.

19 Another thing I want to make the
20 Committee aware of, not only are we in the final
21 rule stage, but we're kind of constrained in my view
22 by a few key parameters. When you do rulemaking and
23 you're past the proposed rule and you go in the
24 final rule, one of the things that you have to be
25 concerned about is you can't add new requirements in

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1 that final rule that have been adequately noticed
2 under the APA, the Administrative Procedures Act.

3 We'd have to go out for a supplemental
4 proposed rule for example to do that. So that's one
5 of the constraints that we have. We have to be
6 conscious of that, making sure we've adequately
7 noticed something.

8 Number two, I think you heard a bunch of
9 this this morning, but it really applies to
10 everything we do when we're putting new regulations
11 in place, and that's backfitting.

12 You know, backfitting provisions that
13 the Commission has we have to comply with and
14 ensure that whatever we do, if it's more than what
15 we've proposed or if it's a new thing, new
16 requirement, that we're meeting the Commission's
17 backfitting provisions and we're very, you know,
18 aware of that of course, those are two major
19 constraints.

20 And then the one that we really, the NRC
21 has control of but it's a fixed constraint, Eric
22 just mentioned it, that's delivering this entire
23 package on December 16th to the Commission, so they
24 can do their deliberation. That's a very aggressive
25 time line. It would have been aggressive had we not

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1 lost about three or four months in the proposed rule
2 stage. But we're going even faster now.

3 So it's a lot of work. We're doing a
4 lot right now in parallel, and that's why I wanted
5 to meet with you today, to get that feedback so we
6 can fold it in as we move forward, because we're
7 going to basically be doing a whole lot of stuff in
8 parallel to the entire package.

9 MEMBER SKILLMAN: Tim, you said with
10 some emphasis that you released this on Friday,
11 November 13th. So I'm just wondering does that
12 Friday mean something?

13 MR. REED: No. It was Friday the 13th.

14 (Laughter.)

15 MR. REED: It really was.

16 MEMBER SKILLMAN: I'm just making sure I
17 heard --

18 (Simultaneous speaking.)

19 MR. REED: --appropriate for this rule.

20 MR. SCHULTZ: Okay, thanks. That's fair
21 enough. Thanks.

22 MALE PARTICIPANT: Tim knows a bit about
23 dark humor.

24 CHAIRMAN STETKAR: I know the schedule
25 constraints that you're under, and for this

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1 Subcommittee meeting we received the annotated
2 version of the rule language.

3 In previous incarnations of the rule
4 language, I at least found it extremely useful to
5 read through a coherent set of the statements of
6 consideration, because they -- they often fill in a
7 lot of information that may not be readily apparent
8 when you read the strict rule language.

9 I know we have another Subcommittee
10 meeting scheduled in October I believe it is, where
11 we'll -- you'll have the last Subcommittee
12 opportunity to provide comments on the rule. I'm
13 assuming that's the first time that we're going to
14 actually see the coherent set of statements of
15 considerations for the rule language; is that true?
16 Because that's a bit troubling. Where are you on
17 the statements of consideration that apply to this -
18 -

19 MR. REED: We are actually almost
20 nowhere. That was --

21 CHAIRMAN STETKAR: That's troubling.

22 MR. REED: Yeah. We -- that's why I
23 said we're doing everything in parallel now. We're
24 going to take the output of that 100 plus page
25 document and your feedback here to do a lot of

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1 things at once. Develop a SECY paper, an FRN which
2 is that statement of considerations you're talking
3 about, revise the reg analysis, the back bin
4 analysis and the environmental assessment analysis,
5 the information collection analysis, which by the
6 way changes also, as well as three draft reg guides,
7 Reg Guides 1.226, 227 and 228, okay. So we're going
8 to be doing that all. In fact, we're doing a lot
9 now and so --

10 MR. E. BOWMAN: And as you heard this
11 morning, we don't have the entirety of the industry
12 guidance for the Reg Guide 1.227.

13 MR. REED: Yes.

14 CHAIRMAN STETKAR: That's true.

15 MR. REED: But if --

16 CHAIRMAN STETKAR: I want to focus -- I
17 mean I know that's everything that you have on your
18 plate.

19 MR. REED: Yes.

20 CHAIRMAN STETKAR: I'm saying that for
21 our purposes, I mean we have to consider all of that
22 too. I mean we've already given you feedback on the
23 draft reg guides and things like that.

24 MR. REED: This is by no means --

25 CHAIRMAN STETKAR: But I mean in terms

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1 of the rule package itself and our members' ability
2 to kind of understand a lot of the rationale about
3 what is specifically in the language, what is
4 implied by some of the rule language, the statements
5 of consideration are very, very valuable.

6 MR. REED: Yes, they are.

7 CHAIRMAN STETKAR: And I'm just raising
8 this as if we see those statements, the statement of
9 considerations in October and there's something that
10 is functionally questionable about scope or intent
11 or meaning, that doesn't give you a lot of time to
12 react to our comments.

13 So I don't know what sort of vehicle we
14 have. I don't know what schedule you're on in terms
15 of getting --

16 MR. REED: You're thinking kind of like
17 -- I mean obviously I'd like to have it well
18 written, through some concurrence. You know
19 obviously that would be much more meaningful to you.
20 What I was trying to do in these comment bubbles was
21 in fact give you what I think the most, you know,
22 important pieces of that are.

23 CHAIRMAN STETKAR: But the problem, I
24 get that.

25 MR. REED: Okay, okay. We tried to do

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1 that.

2 CHAIRMAN STETKAR: But it is precisely
3 what you just said. It is maybe what you think.

4 MR. REED: It is.

5 CHAIRMAN STETKAR: And by the time you
6 get a group together and formulate sort of a
7 continuous story, that might change.

8 MR. REED: You're absolutely right.

9 CHAIRMAN STETKAR: So I'm just -- I
10 don't know how to address it, but I think it would
11 be really, really useful for us to see this kind of
12 mutual judgment, whether we could see a version
13 before October that's a bit cleaned up.

14 It might not have the final, the final
15 language for the statement of considerations, but
16 there might be paragraphs and sentences there that
17 would help. We can work offline with that. I'm
18 just trying to raise that.

19 MR. REED: Yeah. We may be able to do
20 something.

21 CHAIRMAN STETKAR: I think some of my
22 comments that I made today anyway, and I don't know
23 if any of the other members perhaps could be
24 alleviated at that level rather than, you know, the
25 rule language itself.

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1 MR. REED: I think it's the 21st, the
2 meeting of the 21st?

3 CHAIRMAN STETKAR: I don't remember.
4 It's yeah, yeah. I think we may be changing that,
5 but it's that week.

6 MR. REED: Okay. So I think that's just
7 about when we're planning, I hope, to go into a
8 concurrence process. So we may have something we
9 can provide, if maybe almost right on the date. But
10 that would still be, you know, a lot better for you
11 to have something that's about to go into the
12 concurrence process than nothing at all.

13 (Simultaneous speaking.)

14 CHAIRMAN STETKAR: --is that even
15 earlier than the 21st of October might be useful.

16 MR. REED: It will be more and more --
17 it will be rougher as we --

18 CHAIRMAN STETKAR: Yeah. No, I
19 understand. I understand. We'll work together to
20 see what we can do.

21 MR. REED: Yeah, yeah. I understand
22 your concern.

23 CHAIRMAN STETKAR: If there is some
24 fundamental -- fundamental is too strong, but a
25 point of interpretation that requires more

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1 elaboration or more discussion, we want to make sure
2 that we're not backed up against your deadline and
3 you want to make sure you're not backed up against
4 your deadline.

5 (Simultaneous speaking.)

6 CHAIRMAN STETKAR: So that we accurately
7 consider that discussion.

8 MR. REED: I would certainly want to
9 highlight anything that I think you could say well,
10 you know, I understand what you're saying. So no
11 matter what, we would try to provide that
12 information to you in some form.

13 CHAIRMAN STETKAR: Okay, okay.

14 MR. REED: Because I don't want you to
15 be surprised. I don't want in November you say
16 well, this is completely -- I don't want that --

17 CHAIRMAN STETKAR: But only because it's
18 rule -- what we have right now is rule language with
19 the notes in the margin.

20 MR. REED: Yes.

21 CHAIRMAN STETKAR: And many times if I
22 read the rule language, I might interpret it one
23 way. Another person might interpret it a different
24 way. The statement of considerations ought to
25 clarify a lot of that.

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1 MR. REED: Exactly.

2 CHAIRMAN STETKAR: Okay.

3 MR. REED: So the review of the
4 comments, Eric just mentioned actually the first
5 part here. We did receive a lot of really good
6 comments beyond what you just see here today, and
7 it's both of which caused us to make fixes and
8 changes or clarify the statement of considerations
9 and they will help us, as well as comments that
10 caused us to stop and think.

11 Maybe we didn't do anything, but we gave
12 it a lot of thought and I think it's, you know, it's
13 important for us to do that thinking process and
14 make sure we got it right. So we got -- I think we
15 have a, you know, really good opportunity to have a
16 good rule here.

17 Part of it, I think we had a pretty good
18 proposed rule. We were pretty close to, in the
19 ballpark with a proposed rule and what we really are
20 getting is I think fine tuning. So it's improving
21 the rules, clarifying it. It's getting that
22 statement of considerations so that it would be
23 clear, so everybody understands what it means, okay.

24 I mentioned this the last time. What we
25 want in the end is something that an inspector down

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1 the road knows exactly what the rule means, the
2 licensee knows exactly what it means to comply.
3 We're all playing by the same set of rules.

4 That's always what we shoot for. It's a
5 tough target to make, especially on something this
6 complex. But it's clearly what we're doing, we're
7 trying to do. I think we're going to do a final
8 rule definitely better than the proposed rule as a
9 result of the comments.

10 So I just wanted to say that, that we
11 have a lot of good comments and I think we'll have a
12 pretty good rule.

13 VICE CHAIR CORRADINI: So maybe as you
14 go through this, maybe the comments caused this or
15 maybe you did it anyway. I'm kind of curious where
16 the rule deviates from the Order substantially. I
17 think that would help me, I think the new members,
18 since we just got a lecture this morning about --

19 MALE PARTICIPANT: Reevaluate hazards
20 and backfit.

21 MR. REED: Yeah actually that's where it
22 does, by the way. The way this thing's going to
23 evolve, I'm jumping to the end, but where it's going
24 to evolve is we are truly getting to the point where
25 we're making generically applicable EA-12-049, which

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1 is the mitigation strategies order, and EA-12-051,
2 which is the spent fuel pool level instrumentation
3 order okay.

4 With feedback and lessons learned, from
5 what we've done we're implementing this stuff right
6 now and have been for years, and in fact Greg Bowman
7 mentioned where we are in that process, the review
8 implemented and complete. So we've got those
9 lessons learned and we also have the benefit of
10 public comments.

11 So all that's been folded in. So that
12 in large measure is the generic applicable part, but
13 to Dr. Corradini's part, the reevaluating hazards is
14 the part that --

15 CHAIRMAN STETKAR: Tim, Tim, Tim. When
16 you speak, think about inserting like a paragraph
17 between each of your words. Just slow down a little
18 bit please. It also makes it a heck of lot easier
19 for the transcript. So please slow down just a
20 little bit.

21 MR. REED: I appreciate that.

22 MEMBER RAY: Mic, mic.

23 VICE CHAIR CORRADINI: Oh sorry.

24 MR. REED: Okay. I certainly will try
25 to emphasize where I think things are outside what's

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1 going on now or --

2 VICE CHAIR CORRADINI: I certainly want
3 to thank you. Thank you very much.

4 MR. REED: So the bottom part of this
5 slide is what I intend to, or I and Eric intend to
6 go through today on the substantive comments, if you
7 will, and we have a slide for each of these.
8 They're listed right there. The most, the biggest
9 and I think the most challenging one will be the
10 first one, reevaluate hazards, dealing with that
11 information.

12 You heard a lot about the Phase 2
13 decision-making this morning. We're the front part.
14 We're the mitigation strategies rulemaking portion.
15 We also talk about reasonable protection. I think
16 we're going to prove that in the final rule. We'll
17 talk about how we're clarifying the statement of
18 considerations, what we mean when we say "loss of
19 all AC."

20 We're going to talk about removal of the
21 multiple source term dose assessment requirements.
22 Those we'll maintain as a voluntary requirements.
23 They're already basically installed and in place.
24 We'll talk about relocation of the staffing and
25 communication requirements into 50.155. We'll talk

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1 about how that improves the rule, makes those living
2 requirements, directly links them up to mitigation
3 strategies.

4 Those two then help us simplify this
5 rule considerably. That's why you see a lot of
6 strikeout in this, redline and strikeout. A lot of
7 Appendix E goes away. The rule gets a lot more
8 simpler as a result. We'll talk about the spent
9 fuel pool instrumentation requirements and the fix
10 we're making to the final rule.

11 Mike mentioned the flexible schedule.
12 We'll talk about the flexible schedule, and finally
13 some important changes to the statement of
14 considerations to support our change control or what
15 we're going to call now the documentation of changes
16 requirements in this rule. So that's a big, just a
17 list of what I intend to go through slide by slide.
18 Yes.

19 MEMBER BROWN: Okay, Tim.

20 MALE PARTICIPANT: Read through the
21 notes.

22 MEMBER BALLINGER: The only person in
23 this room that can speak faster than you is Jose.

24 MEMBER BROWN: Yes. I just wanted to
25 question the terminology. In the NEI documents that

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1 were sent out, they used the term "use of adequate
2 protection" versus reasonable. Are those
3 synonymous?

4 MR. REED: No, they are not.

5 MEMBER BROWN: I didn't think so. Is
6 there a reason why there's a shift from what they're
7 thinking as opposed to the way you phrase it?

8 MR. E. BOWMAN: Which documents are you
9 referring to --

10 MEMBER BROWN: There was -- it's a James
11 H. Riley letter from February 9th, 2016, where they
12 talk about the rule and the implementation. They
13 talked about implementation time over control
14 changes, etcetera, etcetera, etcetera. One of their
15 paragraphs was on use of adequate protection, and
16 when I was reading the rest, I saw the terms
17 "reasonable protection" and was not sure.

18 MR. E. BOWMAN: We'll be going into that
19 particular comment in greater depth. The adequate
20 protection is related to the Atomic Energy Act
21 criteria for what we can impose requirements.

22 MEMBER BROWN: Okay.

23 MR. E. BOWMAN: To accomplish reasonable
24 protection is a technical term of art in the
25 mitigating strategies that deals with how, to what

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1 degree the equipment and the structure, systems and
2 components they relied on in the mitigating
3 strategies need to be protected, in order to --

4 MEMBER BROWN: Okay all right. I got
5 it. Thank you. Kind of lost that bubble.

6 MR. REED: Anything else before we got
7 to the first issue? This was all on a table so long
8 ago done to Slide 5. So this is the most, I think
9 the most challenging issue in the final mitigation
10 of beyond design basis advance rule. First, I would
11 say we've got some, I think, great comments. In
12 fact, these comments came up last April, April 2015.

13 Too deep into the proposal process for
14 us to address them, but there was -- I think it was
15 presented to the Subcommittee, maybe the full
16 Committee, where it was the idea about treating the
17 reevaluated hazards would be better treated in
18 paragraph (b) of 50.155 rather than where we had it
19 in (c). We saw this and we were like yeah, we kind
20 of agree with that. But unfortunately we couldn't
21 do much with that.

22 I think it was certainly sufficient to
23 put out the rule as it was to get comments. In
24 fact, then we got that comment. So we are
25 definitely in agreement that moving reevaluate

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1 hazards up to 50.155(b) and you'll see it's in
2 actually (b)(2) is a better way of addressing that,
3 because it aligns, first of all it aligns with the
4 guidance, which you heard a little bit this morning
5 about the five pass, for fighting the five pass for
6 seismic.

7 There's a lot of different options for
8 licensees, a lot of flexibility for licensees to
9 address this information within the mitigation
10 strategies as well. By moving this into (b), it
11 aligns with that because you can change the
12 strategies, you can increase, you can improve FLEX,
13 you can do alternative strategies.

14 You heard that today, alternative
15 mitigating strategies or even targeted hazard
16 approaches for some more extreme cases. It allows
17 that. It allows changes in treatment. So it
18 basically aligns with the regulation, the regulation
19 with the guidance, and it definitely provides the
20 flexibility that we intended.

21 So I think it ends up being a much
22 better way of doing it. So that's what we moved it
23 into, 50.155(b)(2). I think it's important to note
24 that we also got comments to explicitly incorporate,
25 as far as that move into (b), risk-informed

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1 approaches, right into the regulation.

2 And you'll see we don't have that in
3 there. In our view, the regulation is at a high
4 enough level that we don't need to call out
5 deterministic and risk-informed. You can of course
6 use both approaches. But I think the Commission
7 would generally encourage risk-informed over
8 deterministic.

9 But both are -- both are appropriate and
10 can be used for addressing the flooding and the
11 seismic reevaluated hazard information, and of
12 course it's mostly for the seismic Path 5 is where
13 you're going to see the risk-informed approaches.
14 In fact, I think they were mentioned today, about
15 20, perhaps 20 plants may be doing PRA as to address
16 that information. So that's where it would fall
17 mostly in those facilities.

18 So again, we moved it to (b)(2). I
19 think it aligns with the guidance. It provides more
20 flexibility. It makes it a better regulation from
21 that standpoint. I think we can address risk-
22 informed approaches underneath those requirements.
23 I think it's sufficiently performance-based to do
24 that.

25 So I will also mention, I think this was

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1 mentioned this morning too, the basis for moving it
2 into (b)(2). In fact, the basis for addressing
3 reevaluate hazards comes from COMSECY-14-0037. Mr.
4 Reckley was here this morning. He's the author of
5 that COMSECY.

6 Our direction from the Commission on
7 that SRM COMSECY-14-0037 directed the staff to
8 require that licensees address this information
9 within mitigation strategies. So that's the basis
10 for moving it into the regulation, and this is why
11 we have it in (b)(2) now, because we think it aligns
12 the framework with the guidance.

13 I'll stop there. I probably went too
14 fast, I apologize. But I'll allow it to soak in to
15 see if anybody's got comments, because this is
16 actually a lot of information.

17 If you go into the draft final rule that
18 you have, if you look at Comments A-13 and 14, A-15,
19 A-17, 18 and 19, A-18, A-19, A-20, those comment
20 bubbles also talk about what I will call like the
21 statement of considerations like for what we're
22 doing here.

23 MEMBER POWERS: Tim, you said you were
24 going to stop there.

25 MR. REED: And I didn't. So I just --

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1 CHAIRMAN STETKAR: I have a question.
2 Get it? I have a few questions on this Tim, and
3 it's -- several of them are related to kind of a
4 common theme, and that is when you made the change,
5 when you moved the material into (b)(2), it's not
6 clear to me that throughout the rule language, not
7 only in 155 but also in other parts of the rule
8 language that are referenced in here, that you
9 consistently thought about whether terms that were
10 limited to only (b)(1) in the past ought now to
11 apply to both (b)(1) and (b)(2).

12 I'll give you some examples, because I
13 couldn't understand in many cases whether it was
14 intentional or strictly an oversight. So let me try
15 to go through some of those comments that I had
16 first.

17 First of all, right in (b)(2)(i), where
18 you say you establish the scope and the need for
19 people to address that issue, there's a big
20 paragraph. It's just the paragraph (b)(2)(i), and
21 the last two-thirds of that paragraph is a long list
22 of factors that may be considered as supporting the
23 find of good cause include.

24 Why does rule language need to elaborate
25 all of those detailed factors? As I read through

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1 them, I tried to think of other things that might be
2 considered or why people might argue about these.
3 Why do we need that long list in rulemaking? The
4 statement of considerations, fine. Examples are
5 fine. But what was the intention there to list
6 those as the options that I might think of, or that
7 you might be constrained to only think of, because
8 it's in the rule language now?

9 MR. E. BOWMAN: Well, Howard made us do
10 it.

11 CHAIRMAN STETKAR: Okay. No seriously.
12 (Simultaneous speaking.)

13 CHAIRMAN STETKAR: You don't have --
14 just take it as a comment.

15 MR. E. BOWMAN: No, that's a good
16 comment.

17 CHAIRMAN STETKAR: Because to me it
18 sounded really constraining and specific.

19 MR. E. BOWMAN: You're right.

20 CHAIRMAN STETKAR: For rule language.

21 MR. E. BOWMAN: Well, the intent was to
22 lay out some of the criteria that a licensee could
23 consider, but we left it as an open-ended list.
24 You'll see it --

25 CHAIRMAN STETKAR: It says "that may be

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1 considered, factors that may be considered," but
2 it's an awfully long list.

3 MR. E. BOWMAN: Okay.

4 CHAIRMAN STETKAR: And other people
5 might come back and say well, it's in the rule
6 language. Shouldn't I interpret this as the only
7 factors that the staff can consider because it's
8 legal language. So this is just a comment.

9 MR. E. BOWMAN: Well, it's a good
10 comment.

11 MEMBER POWERS: Things that you consider
12 really belong in reg guides.

13 CHAIRMAN STETKAR: Either in reg guides
14 or statements of consideration as examples or
15 something.

16 MEMBER POWERS: But yeah, that's a
17 pretty free form format.

18 CHAIRMAN STETKAR: It is.

19 MEMBER POWERS: In the statement of
20 consideration.

21 CHAIRMAN STETKAR: It is.

22 MEMBER POWERS: And it's often usually
23 when you go back and look at that, we wish they'd
24 just written more in the statements of consideration
25 and less in the rule.

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1 MEMBER SKILLMAN: And it's easy for me
2 to put on my licensee hat and interpret this the way
3 John just explained. I could say well the only ones
4 that I may consider are just and only these.

5 CHAIRMAN STETKAR: And the only things
6 that the staff shall consider in their evaluation is
7 these.

8 MEMBER POWERS: Is these.

9 MR. SCHULTZ: Yeah. So I think there's
10 a track here, but I don't believe you intended that.
11 I think you were trying to say "a couple of examples
12 are." But the way the language is --

13 CHAIRMAN STETKAR: But even as Dana
14 said, that's not even appropriate for a rule.

15 (Simultaneous speaking.)

16 MEMBER BLEY: I have a question in that
17 area, and we talked about this a while back Tim, and
18 you had some thoughts here that something was going
19 on. If it's in a reg guide, it's real easy to find.
20 Some of the statements of consideration as it all
21 comes out it's easy to find.

22 But going back in time and trying to
23 find the statements of consideration with rules can
24 be daunting at best, and you or somebody was telling
25 us of some program being developed to try to track

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1 those better, so we can actually find them easier.

2 It wasn't you.

3 MR. REED: It wasn't me. That's a good
4 idea.

5 (Laughter.)

6 MEMBER BLEY: Or you go back a few
7 years.

8 MR. REED: Oh yeah, it's hard.

9 MEMBER BLEY: If not impossible, it's
10 really hard to find them.

11 MR. REED: If you think along that line,
12 but yeah it's hard to do, yes.

13 CHAIRMAN STETKAR: My next comment, this
14 is kind of a walk but -- through the language, but
15 I'm going to skip around a bit. I want to make sure
16 I understand. Under (b)(2), bear with me here, (ii)
17 option capital B. So if you're following through
18 your thing, I read this.

19 It says "Develop event-specific
20 approaches that address the reevaluated hazard
21 information to include demonstration that the
22 effects of the reevaluated hazards can be mitigated
23 through the use of available equipment and SSCs in
24 the facility."

25 Now I read that several times. The

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1 first time I read it, I read it to interpret
2 installed hardware in the plant, and I don't think
3 that that is the intent of what people are
4 addressing in their assessments under this Option B.

5 Aren't they addressing combinations of
6 equipment in the plant and I'll call it onsite FLEX
7 equipment, that may be -- that that onsite FLEX
8 equipment, the scope might not -- of the equipment
9 in the plant, might not be the same scope as they
10 define for their mitigating strategies assessment
11 for the nominal loss of AC power and loss of
12 ultimate heat sink. It might include some other
13 equipment.

14 And the way that they use the FLEX
15 equipment might not necessarily be, in my
16 interpretation, but I haven't seen any of the
17 assessments, the same way as people are developing
18 the strategies for that loss of all AC power and
19 loss of the ultimate heat sink.

20 So what I hung up on was the use of
21 available equipment and SSCs in the facility. Is
22 that actually intended to mean hardware that is
23 permanently installed in the plant? And if it is,
24 why? If it isn't, you may want to think about
25 different language there.

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1 MR. SCHULTZ: I read the same way, John.

2 CHAIRMAN STETKAR: Yeah, okay thanks.

3 So that's two of us.

4 MR. SCHULTZ: And then I thought it
5 would be constraining or limiting --

6 CHAIRMAN STETKAR: It sounded to me --

7 MR. SCHULTZ: --from what the
8 requirements would be.

9 CHAIRMAN STETKAR: So what was the
10 intent of that?

11 MR. E. BOWMAN: The intent was
12 essentially to allow the licensees to use either the
13 whatever portable equipment is necessary, or the
14 installed structure systems and components at the
15 facility, in developing a means of addressing the
16 reevaluated hazard.

17 That means would not be limited to the
18 deterministic types of strategies that are required
19 under (b)(1) of Section 50.155 or the approaches
20 under (b)(2)(ii) capital A.

21 CHAIRMAN STETKAR: A.

22 MR. E. BOWMAN: So instead of the
23 deterministic approach, it would allow them a
24 mechanistic approach to go through and for the
25 flooding example, see what the results of the

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1 flooding hazard information from the reevaluated
2 hazard effort that was under the anti-TF
3 Recommendation 2.1, request for information,
4 determine whether it would indeed result in a loss
5 of offsite power and a loss of all AC power at the
6 facility.

7 If it would, when in time would that
8 happen in the sequence of events, so that you would
9 have the ability to look at it and say I've got five
10 days of warning time and I can do this, that kind of
11 thing. So that you're actually addressing the
12 actual consequences of the hazard itself, as
13 opposed to assuming deterministically that there is
14 an extended loss of AC power and loss of normal
15 access to the ultimate heat sink.

16 CHAIRMAN STETKAR: So what I hear you
17 saying is that your interpretation and my
18 interpretation of the assessments that are being
19 performed or will be performed under this particular
20 capital B, is the same. We have the same
21 interpretation.

22 MR. E. BOWMAN: Right. That would be --

23 CHAIRMAN STETKAR: But what you heard
24 from me and what you heard from Steve is that when I
25 read that particular wording, it was very easy for

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1 me to interpret that wording as the permanently
2 installed hardware inside the walls of the plant.

3 MR. REED: In the facility seems to be -
4 -

5 CHAIRMAN STETKAR: It says "available
6 equipment and SSCs." Now an SSC is not a FLEX thing
7 traditionally. In the facility to me means "inside
8 the walls."

9 MR. REED: Gotcha.

10 CHAIRMAN STETKAR: So you may want to
11 rethink that language, because people will
12 scrutinize every word in this thing, despite the
13 fact that everybody today may understand what you
14 might mean. So just okay. I just wanted to make
15 sure that there wasn't some change in notion once
16 you finally develop the language here.

17 MR. SCHULTZ: And in consideration, take
18 a look at what is provided in double I under 2 and
19 what's in double I under 1. 1 has got a more
20 expansive -- under 1, double I has a more expansive
21 description of what is expected short term, long
22 term and so forth, and under 2 capital B, it is in
23 the facility.

24 CHAIRMAN STETKAR: You meant -- Steve,
25 you meant under A versus B, is that right? Under

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1 double I, (b)(2) double I, A versus B?

2 MR. SCHULTZ: Under (b)(1) double I.

3 CHAIRMAN STETKAR: Oh, (b)(1) double I.

4 MR. SCHULTZ: Yeah. There's a more
5 general description of what the expectations are for
6 short term, long term and --

7 CHAIRMAN STETKAR: Yes, yes, yes, yes.

8 MR. SCHULTZ: --capabilities and so
9 forth, here it's really restricted. That's all.
10 Appears to be restricted.

11 CHAIRMAN STETKAR: It could be certainly
12 interpreted as being very restricted, more
13 restricted than I think the intent.

14 MR. SCHULTZ: Okay, thank you.

15 CHAIRMAN STETKAR: Take a look at that.
16 Now let me look at the other -- well, let me just go
17 through this and tell me if you're going to address
18 some of them later. I don't think you are. If I
19 now go down to (b)(2)(C), I'm sorry. If I go down
20 to (c); it's not (b)(2)(C), we talk about the need
21 to have equipment -- this is (c)(1).

22 The equipment relied on mitigation
23 strategies required by (b)(1) must have sufficient
24 capacity and capability to, yada yada yada, restore
25 containment, core cooling containment, spent fuel

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1 pool cooling.

2 Let me focus on that paragraph first.
3 Why not also (b)(2)? If I'm going to take credit
4 for -- let's say I want to take credit for pump Joe
5 sitting in my facility that's not part of my
6 strategies under (b)(1), but I want to take credit
7 for pump Joe for some of my focused scenario-
8 specific evaluations under (b)(2), ought not I
9 demonstrate that pump Joe has adequate capacity and
10 capability to pump enough water in to meet, you
11 know, the functional requirements of that strategy?

12 I'll warn you, you're going to run into
13 a bit of a problem because this paragraph says "core
14 cooling containment and spent fuel pool cooling,"
15 and you'll get comments back from licensees who will
16 say, ah, but I want to develop targeted strategies
17 for which I cannot maintain containment.

18 So you'll need to think a bit about
19 words on here. But I'm trying to telegraph the
20 notion that if you want to specify the fact that the
21 equipment shall have adequate capacity and
22 capability to meet a functional requirement, it
23 seems that that ought to apply, whether that's a
24 (b)(1) or a (b)(2) functional requirement.

25 MR. REED: Well I can't answer the

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1 question right now. But that's -- I appreciate it.

2 CHAIRMAN STETKAR: How you word it and
3 how you get around the core cooling and containment
4 and spent fuel pool logical construct is something
5 that you'll have to struggle with. But it is --
6 none of those examples where it seemed to be that it
7 -- I didn't know whether it was an intentional
8 oversight or an intentional omission or whatever,
9 just an oversight.

10 (Simultaneous speaking.)

11 MR. REED: We appreciate it. Yeah,
12 absolutely.

13 CHAIRMAN STETKAR: Okay, okay. Now I'm
14 a may slow speaker and an even slower writer, so I
15 will write slowly here.

16 MR. E. BOWMAN: Tim will try to make up
17 for it.

18 CHAIRMAN STETKAR: I'm sure he will.

19 (Simultaneous speaking.)

20 MR. REED: As soon as you're done, I'm
21 going to get through three or four slides and --

22 CHAIRMAN STETKAR: I know.

23 MALE PARTICIPANT: Quit dawdling, Tim.

24 CHAIRMAN STETKAR: You're going to get
25 to reasonable protection of equipment later, aren't

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1 you? You have another slide, so I'll wait for that
2 one. Are you going to get to -- there was a
3 paragraph that was deleted under equipment from --
4 it used to be paragraph three.

5 It said "Equipment relied on for
6 mitigation strategies in paragraph (b)(1) must
7 receive adequate maintenance."

8 MR. REED: Yeah, in the last slide I'll
9 --

10 CHAIRMAN STETKAR: Oh, you're going to
11 address that in the last slide. Okay. I'll wait
12 for that one then. Five, six. Under the new
13 paragraph (c)(4), each -- you're going to talk about
14 communications later also or not? I didn't look far
15 enough at your slides.

16 MR. REED: I have a relocation of staff
17 and communications. If you hold that we could do it
18 there or --

19 CHAIRMAN STETKAR: Let's do it now,
20 because that paragraph, I don't know. I had a
21 problem with the relocation of the communications
22 out of whatever it was, Appendix E to here.

23 MR. REED: Right.

24 CHAIRMAN STETKAR: But it specifically
25 says that I have to have sufficient communications

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1 capability, both onsite and offsite to support
2 implementation of (b)(1).

3 Now (b)(2), because it involves moving
4 things around on site, various groups of people
5 possibly doing that, it strikes me that I ought to
6 have sufficient communications to support those
7 strategies also, oughtn't I or not? And if not, why
8 not?

9 I'll give you an example, that if I need
10 to know that I've got five days to move the stuff,
11 somebody somewhere way the heck away, several states
12 away, has to be able to communicate with me that the
13 wall of water is coming down the river. That's even
14 on offsite communications capability.

15 (Simultaneous speaking.)

16 MR. REED: Yeah, I was thinking it was
17 only offsite --

18 CHAIRMAN STETKAR: Regardless of, and if
19 one of my strategies is that not both of my N plus 1
20 sets of equipment are protected from flooding, and I
21 need to move one of those to higher ground in the
22 next hour and a half, I need to make sure that
23 whoever I'm getting to move that equipment is doing
24 it in an expedited manner, which might involve
25 radios and things like that.

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1 So I'll just raise the question about
2 why is the communications restricted only to the
3 strategies in (b)(1)? And for that matter, even
4 (b)(3), although I know (b)(3) may be treated
5 somewhere else. No, you've moved EDMGs.

6 MR. E. BOWMAN: Yeah. The genesis of
7 the communications capabilities requirement in
8 Appendix E, Section 7 as it was proposed was from
9 the communications assessment request for
10 information. So it didn't explicitly cover the
11 (b)(5)(b) communications, although that -- we'll
12 have to look and see if --

13 CHAIRMAN STETKAR: Think about that. I
14 didn't think so much about the (b)(5)(b) stuff,
15 because I didn't know where that was -- I didn't
16 know where that was covered. But yeah, you're
17 right. If you've moved that all in here --

18 MR. E. BOWMAN: We may be able to trace
19 back a communications need from the (b)(5)(b)
20 implementation to bring into that (c)(4) paragraph,
21 and we'll have to look at -- because the
22 communications assessment was part of their request
23 for information, it didn't cover the parallel part
24 of the request for information for the reevaluated
25 hazards. But it's --

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1 CHAIRMAN STETKAR: Well that's -- that
2 could be -- I mean, you know. My five day --

3 (Simultaneous speaking.)

4 CHAIRMAN STETKAR: --isn't extreme, but
5 if I've got six hours, you know, and people are
6 taking credit for the fact that we shall be notified
7 within at least six hours of some upstream dam
8 failure or something like that, that requires some
9 confidence in the fact that you'll be able to get
10 that communication.

11 MR. E. BOWMAN: It makes sense as part
12 of the requirement. But we're going to have to
13 think about how it gets justified is what I would
14 say.

15 CHAIRMAN STETKAR: Okay. Let me see if
16 I think -- oh, and this is a one that you're not
17 going to address, but it's another one of these I
18 think catch up ones. Way at the end in -- of your
19 package there, in Section 52.80 D Dog 2, that
20 addresses contents of applications, additional
21 technical information, this is part of the other
22 changes that you need to make throughout the --

23 Be careful of your paper by the way
24 Eric. I don't know whether you're in a mic or
25 somebody is. Things that need to be cleaned up to

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1 take care of this. It says this also restricts the
2 information about the equipment to only Section
3 (b)(1), and I didn't know -- because again, I don't
4 know what equipment people are going to take credit
5 for in these focused scenario-specific strategies.

6 MR. E. BOWMAN: In 52.80, that's only
7 applicable to combined license holders or applicants
8 for combined licenses, and they would not have
9 request for information on the reevaluation of the
10 hazards. So that's why it's not in there.

11 CHAIRMAN STETKAR: Thank you, I got it.
12 Thank you. I slipped up one other place until I
13 read the margin notes and the same thing. So thank
14 you. That explains that one.

15 MR. E. BOWMAN: I think we caught it in
16 50.34(i).

17 CHAIRMAN STETKAR: I didn't find it
18 anywhere else. Those are in other places where I
19 had the kind of (b)(1), (b)(2), other than ones
20 we're going to talk about in some of your other
21 slides.

22 MR. E. BOWMAN: And that's similar
23 discussion would apply to the requirement that's a
24 draft requirement of 53.4(i). The 53.4(i)
25 requirement would not really apply to a current

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1 operating power reactor licensee. So it would only
2 apply to a new power reactor applicant.

3 So there would be no potential for a new
4 power reactor applicant to have received the request
5 for information on the reevaluated hazards, with the
6 possible exception of Bellefonte, who received it as
7 a construction permit holder and we would deal with
8 them separately I believe.

9 CHAIRMAN STETKAR: That's correct.
10 Okay, thank you. Thanks. That's all I have on the
11 (b)(1), (b)(2) comparisons. Other --

12 MR. SCHULTZ: We covered a few things
13 that are outside the listing of -- the major listing
14 of things that you were going to cover today. So I
15 just had a question on kind of paragraph (b)(3),
16 where the clarification that has been provided in
17 Comment A-21, Alpha-21, "These provisions apply on a
18 unit-specific basis only."

19 And I look at the change that has been
20 provided and if that provides some indication that
21 the provisions apply on a unit-specific basis only,
22 it seemed very subtle to me. I don't quite
23 understand how this is being communicated here.

24 MR. E. BOWMAN: The way -- our intent is
25 to make the wording in the regulation somewhat more

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1 limiting than it was in the original. Loss of a
2 large area of the plant was the original wording
3 from my EA-02026 Section (b)(5)(b) and currently
4 50.54(hh)(2).

5 But when it's juxtaposed with the (b)(1)
6 mitigation strategies requirements that cover the
7 entire site, it can be interpreted by someone as a
8 large area can be regional in nature, as opposed to
9 the very localized event that was the foundation for
10 the (b)(5)(b) requirements. Frankly, it's better
11 explained in the statement of considerations than
12 we'd get here --

13 MR. SCHULTZ: It would be.

14 MR. E. BOWMAN: Yeah, and it's -- the
15 bounds of it are best understood by looking to the
16 guidance, because calling it unit-specific is -- can
17 also be a little bit misleading, because there are
18 requirements to address mitigation of spent fuel
19 pool impacts for shared spent fuel pools between
20 multi-unit site units that would clearly not really
21 be unit-specific.

22 But that's getting down in the weeds a
23 little bit, and we haven't completely finished
24 considering what the right way to phrase that
25 requirement is.

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1 We could even think about going and
2 using the language that was used in the (b)(5)(b)
3 license condition, which was for guidance and
4 strategies to address a large fire and explosion,
5 rather than calling out large area of the plant.
6 But we're still working on that one.

7 MR. REED: Yeah, our intent is to limit
8 it to exactly what's already in place --

9 MR. SCHULTZ: Thank you. Thank you.

10 MEMBER SKILLMAN: Tim and Eric, I've got
11 a couple of comments I'd like to offer up please.
12 The first one is on Echo, Drills and Exercises, and
13 now you've added Foxtrot. "In order to support
14 effective prioritization of event mitigation
15 recovery actions, each licensee shall provide
16 reliable means to remotely monitor wide range water
17 level for each spent fuel pool."

18 It seems, at least in my judgment, that
19 that is out of place under this portion of the
20 proposed changes. It seems to me that this would
21 better fit up under Bravo.

22 This is kind of listed as an item after
23 Drills and Exercises. It's a stand-alone that
24 points to the requirement for the water level, and
25 in reality, at least in my view, it fits more under

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1 the mitigating strategies portion.

2 MR. REED: We do have a slide on that.
3 So want to wait until --

4 MR. E. BOWMAN: Well, we'll go into it a
5 little bit further. It's not a perfect because it -
6 -

7 MEMBER SKILLMAN: It pops out there
8 oddly is my comment.

9 MR. E. BOWMAN: I agree. It is odd.
10 It's a separate entity and that's why it's in its
11 own paragraph. It doesn't make sense to us or it
12 didn't make sense to us to call it part of the
13 integrated response capability, because it's not
14 really per se part of the integrated response
15 capability.

16 It's more equipment, but it doesn't
17 belong in the equipment section because the
18 equipment section is talking about the equipment
19 that supports the integrated response capability.
20 So we'll go into that later. It was in response to
21 stakeholder comments.

22 MR. REED: So it's intentionally that it
23 stands alone there because the Order stated that.
24 So that's what we're trying to do.

25 MEMBER SKILLMAN: Okay. So my comment

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1 is it is an oddity in the location where you have
2 placed it, and I'm sure we can live with it. But it
3 just kind of pops out as why is it there.

4 CHAIRMAN STETKAR: I stumbled over it
5 too, but after I read it and thought about it and
6 thought about where the heck would I stick it, this
7 is the only place. I couldn't find -- other than
8 repeating it kind of at least twice, I didn't see
9 where else it would fit.

10 MEMBER SKILLMAN: I'll leave it well
11 enough alone. It just pops out. It seems to be an
12 oddity.

13 CHAIRMAN STETKAR: It does.

14 MEMBER SKILLMAN: Let me go to the more
15 important one. In Echo, E, Drills and Exercises, I
16 struggled with the eight-year interval for the
17 exercise, and I think I get there legitimately as a
18 qualified ED and ESD and having stood watch for
19 years.

20 A periodicity of once each eight years
21 could leave several shifts not even having breathed
22 this issue unless somehow it was swept into the
23 biannual exercise or an ad hoc probe of the
24 emergency response organization.

25 It seems to me that this is so important

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1 it deserves a once each four years or an unannounced
2 within 60 months of the last unannounced, that the
3 way this is presented, if I was in charge of
4 emergency preparedness and my governance was to
5 reduce budget as much as I could, I'd jump on this
6 and say boy, I've got an exit path that's really
7 going to keep my expenses low.

8 It just seems to me that for something
9 as important as this is, once each eight years, with
10 the first one being maybe eight months before you
11 load fuel, I don't know where I would end up in
12 terms of being comfortable with my emergency
13 response organization.

14 So unless there's something that is
15 overwhelmingly potent saying it can't be more
16 frequent more than once each eight years, I'd
17 advocate for something that really points to the
18 necessity of drilling more frequency. The reason is
19 because the turnover on the shifts.

20 You're going to have an organization
21 that after eight years will have men and women maybe
22 who've never even seen a scram, and might not even
23 dwell in ERO space for an emergency event of this
24 magnitude.

25 MR. E. BOWMAN: Well, we struggled with

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1 that and we did get some stakeholder comments on it.
2 We had one comment that suggested every year or
3 every other year. But we looked at it. It's a
4 Beyond-Design-Basis event, and there are design
5 basis events that perhaps should have a higher
6 priority for the training and drills that the staff
7 needs to undergo.

8 As you mentioned, you may have parts of
9 the staff that have never actually seen a scram.
10 Well by gosh, they probably ought to drill on what
11 to do for scrams. So --

12 CHAIRMAN STETKAR: For a small LOCA or a
13 tube rupture or, you know.

14 MR. E. BOWMAN: But we settled on the
15 eight years because it winds up well with the eight
16 year exercise program in Appendix E for the
17 emergency preparedness events, conjunction with the
18 requirement in there, I think it's in D for the use
19 of the systematic or the systems approach to
20 testing, so that --

21 MEMBER SKILLMAN: Let me make one more
22 comment to this point, and then I'll drop it. Your
23 scenario has to push hard to get you to a general
24 emergency. I mean you've got to fail a fuel, and
25 you've got to go through your EALs and find your way

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1 into that general -- you've got to have a lot of
2 damage to get you into your SAMGs.

3 So if this were to communicate a
4 requirements of more frequent than once each eight
5 years, it would necessarily create a training
6 environment under systematic approach or a system
7 approach to training, where you really have to
8 rehearse into a general and get into consideration
9 about FLEX.

10 I guess it just strikes me after all of
11 this effort, these hundreds of millions of dollars,
12 all of these men and women that have done so much to
13 recognize what happened at Fukushima, we ought to
14 drill on it. You know, now we know what a hotel
15 fire looks like. Let's show how we can extinguish a
16 hotel fire and save lives.

17 We know what a really bad event looks
18 like. At least in my view, we ought to drill that
19 way. My two cents. On a merchant ship you drill
20 once a week fire and boat drill. It can be a
21 hurricane, it can be a typhoon. You're doing your
22 drill, and the sailors learn here's how we do this,
23 because it will save this ship and it will save
24 lives.

25 It just strikes me that in the very

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1 complex environment in these plants, and I agree
2 they're well controlled, the men and women are very
3 well trained, there's a reason to rehearse at a very
4 high level. And you know we learned that on the
5 aircraft carrier. The motto on that aircraft
6 carrier, the Bush was you train like you fight and
7 fight like you train.

8 We watched them do the most detailed
9 drill as if they had an actual fire in the engine
10 room. They showed us how they do it. There's room
11 for that, for the hundreds of millions of dollars
12 that have been invested for what we're doing here.
13 So it just strikes me that when we get to the bottom
14 of it is rehearse it.

15 CHAIRMAN STETKAR: The only thing, and
16 that's a long discussion about why it's really
17 important if you're on a ship to make sure that you
18 don't sink the ship or kill anybody on a ship. The
19 question I have is what do you give up to train on
20 this particular type of situation, because you can't
21 train people in nuclear power plants every day by
22 running emergencies. So what are you proposing to
23 give up?

24 MEMBER SKILLMAN: I don't think I'm
25 giving anything up. I'm drilling probably once each

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1 four years where I know I've got a number of crews
2 that are taking the plant to a general emergency.
3 And if I go to a GA, I am forced into all of the
4 notifications that have to do with a release.

5 And if I'm pushed into the right
6 exercise, at least I can mimic response with FLEX,
7 and I will have rehearsed all of the onsite and
8 offsite notifications; I will have rehearsed my
9 entire radiological team; I will have deployed my
10 radiological teams; I will have done everything that
11 I need to do to know the station can take that event
12 or a lesser event. Because if you train to the
13 higher level, you pulse all of the other lower level
14 functional performance requirements.

15 So I don't think I give up anything. In
16 fact, I think I gain a lot. I'd say instead of once
17 every eight, do it once every five or four, and
18 really push it to where you're in your -- in your
19 SAMGs. I think you gain, not lose.

20 MEMBER KIRCHNER: I concur with my
21 esteemed colleague. I just think eight years just -
22 - you lose all your corporate knowledge in that
23 interval.

24 CHAIRMAN STETKAR: The question --

25 MEMBER KIRCHNER: Not all. I shouldn't

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1 state it like that, but I -- it's too long an
2 interval to have any meaningful residual knowledge
3 in the plant.

4 CHAIRMAN STETKAR: I think that --
5 here's my -- this is a subcommittee meeting, so this
6 is my own personal opinion. When you put something
7 in a rule, and the rule applies to now a very
8 specific -- this is the mitigation of beyond-design-
9 basis events rule, it isn't the cope-with-the-fire
10 rule inside the plant. It isn't the cope-with-the-
11 LOCA rule inside the plant. Anything of that.

12 People then will interpret a training
13 and drill requirement as I have to drill on this. I
14 have to drill on the fact that I had a big seismic
15 event or a big flood event, and I had these specific
16 conditions. And I think, in my opinion, that simply
17 because we happen to be talking about this
18 particular rule today and the fact that Fukushima
19 happened, saying that we ought to really drill the
20 hell out of the crews on this particular aspect of
21 events, given the fact that they are low in
22 frequency, might not be appropriate.

23 Now, that being said, crafting drills
24 and exercises that will challenge people to use the
25 stuff that they got somewhere inside the fence on

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1 the plant, and some of that stuff might have had a
2 FLEX label on it, and some of the stuff might be
3 strategies that were developed for some of this
4 stuff, might be a really good idea.

5 So if I have a drill that starts out
6 with a fire inside the plant, and I want to exercise
7 whether I could take advantage of some of that other
8 FLEX equipment to cope with a progressing, severe
9 accident, I think that's a really good idea. But
10 that drill isn't in response to this because this
11 stuff will be interpreted by licensees and the staff
12 in a very, very specific manner.

13 MEMBER BALLINGER: Yes. I think --

14 CHAIRMAN STETKAR: Must have a loss of
15 all AC power, and you must have a loss of the
16 ultimate heat sink.

17 MEMBER BALLINGER: I think you hit it
18 pretty right in that eight years you lose -- what do
19 you want to call it? Memory, your staff, because
20 eight years is a very, very long time. And it may
21 be that the concern would be to make sure that the
22 staff on the plant exercises this equipment often
23 enough, so that they don't lose the edge, if you
24 will, the memory of how to do things, rather than
25 the specific event like you're talking about.

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1 Maybe I'm not using the right words, but
2 it's -- you know, a guy comes on, an employee's --
3 five years later, or eight years, it's a long time.

4 MEMBER BLEY: I may as well chime in a
5 little bit. Some months ago we had some folks in
6 here from the industry who walked us through a set
7 of -- like a simulation, and they walked us -- took
8 us through the emergency procedures and out in the
9 DMGs and into some of the FLEX procedures and in
10 some of the SAMGs.

11 And at the end of it, somebody said,
12 "And we're doing all of this for a 10 to the minus
13 7th per year event." And at least I said, "No,
14 that's not it. We're doing this because one day
15 some operator is going to be faced with a situation
16 where the equipment the EOPs call for doesn't get
17 them out of trouble, and now he's got a suite of
18 things he can use." And that kind of comes down
19 where John was.

20 I really wouldn't want to see people
21 exercising the Fukushima event, the long, extended
22 loss of offsite power when probably that is never
23 going to be there, but exercising the rest of this
24 stuff makes a lot of sense to me. If it's in this
25 rule, I think it gets interpreted as the former, and

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1 I don't think that's a very good idea.

2 MR. E. BOWMAN: The only other thing I
3 would add to the discussion is that this is not the
4 only work project that is underway. I believe the
5 PRA Subcommittee is going to be briefed on the
6 effort that is ongoing on crediting FLEX in the
7 licensing activities and significance determination.
8 So there are other things that are going on besides
9 this rule that will drive the capabilities and the
10 training of the staff for the licensee's facilities
11 to use this equipment and these sets of strategies
12 for perhaps not the exact scenario that it's being
13 required to be used for in this rulemaking.

14 MR. SCHULTZ: That's a good comment,
15 Eric. I think, you know, the objective of the
16 emergency planning staff at the sites is not to
17 constrain a drill or exercise to something that is
18 known to -- known to be occurring. In fact, the
19 whole point of a drill or exercise is for the staff
20 not to know what's going to happen. And you don't
21 know when you hear the unusual event and then the
22 alert whether you're going to a site emergency or a
23 general or you're going to go into beyond-design-
24 basis event.

25 And it's the obligation of not only the

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1 emergency planning staff but also the staff at the
2 site, and all the supporting staffs, to work through
3 that each and every time there is a drill or
4 exercise. And so the -- and I know that the
5 evaluators of the exercise are looking to make sure
6 that the staff that is there performing reaction --
7 or reacting to the event in an exercise or drill
8 mode are thinking all the way through what if, what
9 if, what if -- and you know this, Dick -- and
10 looking for, evaluating, and figuring out what are
11 the possibilities, what can we do with the events
12 that are occurring, what if something else happens
13 and happens and happens. And that goes on each and
14 every time there is a drill or exercise, and that
15 happens frequently, and for some operating crews it
16 seems like for them all the time at the sites.

17 So once every eight years doesn't sound
18 right for something like this, but it will be -- it
19 will be there, and it will be present in the staff's
20 minds, or else their emergency planning management
21 will make sure it in fact is. It will be part of
22 the training for sure. It has already been part of
23 the training.

24 MEMBER BALLINGER: Yes. The key is for
25 the staff to know that the hardware, or whatever

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1 capabilities exist, and that if they need it, it --
2 they can't -- they don't have to check a box that
3 says, well, this is not a design basis accident, so
4 I've got to leave this stuff chained down.

5 MR. SCHULTZ: And it would be great if,
6 as Eric says, it gets the opportunity to be pulled
7 in through the supporting evaluations for other uses
8 and evaluations.

9 MEMBER KIRCHNER: Since I'm new, I guess
10 I can ask a lot of dumb questions or uninformed
11 questions. How regularly is the FLEX equipment
12 deployed, physically deployed, physically connected,
13 in some drill scenario, for whatever is intended?

14 VICE CHAIR CORRADINI: That actually
15 expands upon my question, which is, so it's not
16 eight years; when are things exercised that would
17 take them out to the FLEX equipment and --

18 MEMBER REMPE: So we were at a plant
19 recently, and I could swear -- can somebody help us
20 remember how it was eight years that they did take
21 it out and do things. And it was more frequent, and
22 I just can't remember the periodicity. Can some of
23 the other members --

24 MEMBER RAY: That was because they were
25 required to do so, Joy. They did do it.

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1 MEMBER REMPE: Yes.

2 MEMBER RAY: And the deployment was
3 limited because some of this stuff you don't --

4 MEMBER REMPE: Right.

5 MEMBER RAY: -- want to connect unless
6 you have to.

7 MEMBER REMPE: But how -- wasn't it once
8 a year? It was something like -- it was much more
9 frequent.

10 MEMBER RAY: It was much more frequent,
11 yes.

12 MR. E. BOWMAN: It will be more
13 frequent, and I believe when Mr. Mauer is up here
14 providing industry comments on the rulemaking he may
15 be able to lend some insights into that, and I think
16 he was going to have Mr. Amway with him. So I can't
17 answer that because I don't have that experience
18 that.

19 MEMBER KIRCHNER: Let me just say this
20 is my opinion, having had -- shared some of the same
21 operating background experience as Dick. I would
22 strike the eight-year requirement and come up with
23 an alternative way of asking the licensee to
24 demonstrate that the equipment that they are relying
25 on in the mitigating strategies is utilized in a

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1 manner for its function, demonstrated in some --

2 MR. E. BOWMAN: Right.

3 MEMBER KIRCHNER: But eight years, to me
4 personally, makes no sense. It is too long an
5 interval. You have lost corporate knowledge along
6 the way, you've had turnover in staff, and, wow,
7 just once every eight years, just from a training
8 standpoint -- I'm not a professional in the area of
9 training. That just doesn't -- it doesn't make any
10 sense. It seems rather arbitrary to check a box but
11 not adequate -- "adequate" is not the right word to
12 use, not reasonable. I'll use your "reasonable"
13 word for demonstrating that you are meeting these
14 requirements.

15 MR. E. BOWMAN: There are other looks at
16 the capabilities of the licensees to accomplish the
17 strategies. It will become part of the reactor
18 oversight process. My experience with the (b)(5)(b)
19 mitigating strategies is that wound up being a
20 triennial inspection with the inspectors randomly
21 choosing members of the on-crew staff and walking
22 through the strategies with them to ensure that they
23 are trained and capable of executing the strategies,
24 which typically results in the licensees providing
25 sufficient training as --

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1 MEMBER KIRCHNER: That strikes me --

2 MR. E. BOWMAN: -- they are required to

3 --

4 MEMBER KIRCHNER: -- as a much more

5 effective --

6 MR. E. BOWMAN: -- opposed to training.

7 But we included the drilling requirement and a drill

8 or exercise requirement, lining it up with the

9 exercise requirement that's included already in

10 Appendix E, because it made the most sense to us and

11 also because we are moving the (b)(5)(b) exercise

12 requirement that is currently in Appendix E from

13 there to this rule. So --

14 MEMBER KIRCHNER: Thank you.

15 MR. FRANOVICH: This is Mike Franovich.

16 I just wanted to add two other items. My

17 understanding is that INPO is also looking at the

18 training aspects and exercise, not in a required

19 sense, but what the licensees actually do to

20 demonstrate excellence, which is a different

21 standard than what we regulate to, right? We're

22 regulating to the minimum safety standard; they're

23 regulating to a little bit higher -- or I shouldn't

24 say regulating; they are looking at a little bit

25 higher bar in terms of excellence and in terms of

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1 execution of plant operations.

2 The second part -- I want to circle back on
3 what Eric Bowman mentioned regarding credit for FLEX
4 and other regulatory applications. In particular,
5 in the maintenance rule space, in configuration risk
6 management online or during shutdown, we are seeing
7 plants now that are looking to try to use FLEX for
8 defense-in-depth purposes, for managing risk, and in
9 some of those instances it does require pre-
10 deployment of the equipment, actually staging in
11 advance, maybe short of actually hooking it up.

12 That does lend some proficiency for
13 operators in terms of understanding the original
14 intent of the equipment and how it can be used to
15 actually apply to their day-to-day configuration.
16 So as we move forward to try to approve a regulatory
17 path forward and giving that credit, both in the
18 reactor oversight process and licensing actions, I
19 think that could encourage licensees to do, for that
20 purpose, a little bit more exercise of the
21 equipment, not in a drill or evaluation sense but
22 from a proficiency standpoint familiarity.

23 CHAIRMAN STETKAR: Yes. Please go to
24 the next slide, if there aren't any more comments on
25 this one. We have to be a bit aware of time because

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1 we do have an industry presentation, and we want to
2 leave enough time for public comments before
3 everybody needs to go to dinner. So I'm sure Tim
4 will keep us on track here.

5 (Laughter.)

6 MR. REED: Yes, sir.

7 MR. E. BOWMAN: Any questions on this
8 slide?

9 (Laughter.)

10 MR. REED: So reasonable protection,
11 Slide 6. We had some good comments here to improve
12 reasonable protection, and some of this stems from
13 the fact that we have realigned the reevaluate
14 hazards into (b), and I think that allowed us to
15 kind of improve the way we are treating reasonable
16 protection. The people are fortunate enough that
17 they implement FLEX under design basis, the (b)(1);
18 and if you're unfortunate and you have reevaluate
19 hazards for seismic or flooding that exceeds that,
20 then unfortunately you've got (b)(2) to address it
21 in terms of what you need to consider and addressing
22 in terms of treatment for the equipment I call it.

23 Reasonable protection, my words here, is
24 a way of ensuring proper treatment to this
25 equipment. If you're familiar with the regulation,

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1 special treatment requirements, something near and
2 dear to my heart, are in 50.69, paragraph (b). They
3 are all listed there. None of those apply because
4 we're in a beyond-design-basis regime here. And so
5 all the treatment that applies to this equipment
6 must be put into this rule. The rest of the special
7 treatment requirements are blind to it. They are
8 all looking at safety-related functions, and of
9 course we are looking at a beyond-design-basis
10 function.

11 So this is the vehicle which we do it.
12 If you're -- like I said, if you're fortunate enough
13 to have your envelope as your current design basis,
14 you're aligning that treatment to a magnitude that
15 corresponds to (b)(1). If you're unfortunate and
16 you have to deal with reevaluate hazards, then the
17 magnitude you are considering is (b)(2).

18 And I think in the -- I believe that,
19 again, an example of kind of what we mean here, if
20 you look at one of these notes -- I'm not sure
21 exactly which one it was, but it's either 24, 25, or
22 26. And what I wanted to try to give an idea, what
23 the heck is this? You know, if -- and I think it
24 might be -- was the term driven aux feedback pump?

25 I think, as an example, if you were --

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1 you know, that's a safety class 2 typically, if I
2 recall correctly. A plant, a piece of equipment,
3 it's obviously very core protected at 15, safety-
4 related functions for loss of feedwater, et cetera.
5 Well, that exact same safety-related pump is being
6 used as part of core cooling here, okay, your
7 initial core cooling response, but that's a beyond-
8 design-basis function.

9 So what does it mean when we talk about
10 reasonable treatment, reasonable protection for
11 that? What we are really meaning, for example, is
12 under the circumstances where there is no AC power,
13 okay, basically, except for your batteries, you're
14 going to be looking at a room.

15 It's going to get very, very hot, okay?
16 And that pump is going to have to be able to
17 withstand that or the equipment, or maybe there was
18 a box in the room to control power, or whatever, it
19 might have to withstand temperatures that it -- that
20 equipment was not equipment qualified to under
21 50.49.

22 Now, 50.49 is equipment qualifications
23 special treatment for safety-related equipment,
24 very, very demanding requirements. They don't apply
25 here. What applies here is, I'm going to do a

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1 design calc. I'm going to show this thing can
2 actually do it for the time period it needs to do
3 it. So that's the reduced level of treatment.

4 I wanted to give an example of what
5 reasonable protection means, what it really means
6 when we're talking about the appropriate treatment
7 to have a basis that this stuff can really do these
8 beyond-design-basis functions or your intended in
9 this -- in this regulation. So I think that's in
10 one of the bubbles as an example of what reasonable
11 protection is.

12 And so I hope that explains the question
13 earlier about the use of this language, reasonable
14 protection. It does get confusing I think with
15 reasonable assurance of adequate protection of
16 public health and safety, which is completely
17 different; that's in the Atomic Energy Act. This is
18 a term of art we are using in implementing the
19 mitigation strategies. It has been used the whole
20 way. It has been used with the order, the
21 implementation of it right now, all the guidance,
22 and we are preparing it forward into the rule. So
23 no change.

24 We actually got comments to adjust the
25 language and to remove the word "reasonable." And

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1 one of the reasons -- one of the reasons we're not
2 removing "reasonable" is because I don't want to
3 change words to mean the same thing. If everybody
4 understands and spent \$3 billion-plus in industry,
5 that's what reasonable detection is, I don't want to
6 change words in the rule and I mean the same thing.
7 I want to use the same words to mean the same thing.
8 That's just one of the fundamentals of rulemaking.
9 So we're intending to carry forward reasonable
10 protection in the rule. So that's one thing we
11 didn't accept, or right now we're not intending to
12 accept under comments.

13 That's all I had. Have I left anything
14 out?

15 MEMBER BLEY: This first showed up in
16 the order, is that right?

17 MR. E. BOWMAN: It first showed up --

18 MEMBER BLEY: Or in the response to the
19 order.

20 MR. E. BOWMAN: -- in the NTTF report --

21 MEMBER BLEY: Oh, what it in there?

22 MR. E. BOWMAN: -- 4.2, included the
23 idea of reasonably protecting what then they
24 referred to as the 50.54(hh)(2) equipment. They had
25 a little bit different idea of what the mitigating

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1 strategy should be.

2 MEMBER BLEY: Earlier you clarified that
3 "adequate protection" is a legal term, and
4 "reasonable protection" is an engineering term? I
5 forget what you called it.

6 MR. E. BOWMAN: It's a technical term --

7 MEMBER BLEY: Technical term.

8 MR. E. BOWMAN: -- of art in the
9 development and implementation of the mitigating
10 strategies.

11 MEMBER BLEY: Okay. So from the staff's
12 point of view, it applies to mitigating strategies.

13 MR. E. BOWMAN: That's right.

14 MEMBER BLEY: What it's about . Okay.

15 MR. REED: And it's well understood in
16 industry, so we don't want to change that language
17 at this time.

18 CHAIRMAN STETKAR: Any other comments or
19 questions?

20 MEMBER BROWN: I just wanted -- you're
21 talking about 50.155(b)(1) and the bubbles, when I --
22 - and this corresponds, by the way, what we got
23 prior to the meeting, comment of A12. That has a
24 line down and it says -- there's a whole bunch of --
25 somebody wanted to know what "all AC power" meant.

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1 And it looked like a lot of the other comments were
2 incorporated in here, but this one said, "These
3 words will be incorporated." Does that -- does that
4 mean you are going to include some of these things
5 within a comment? Do you see what I'm talking about
6 on A12? It says the final NV rule supporting
7 statement, consider will be required to more
8 explicitly address the meaning of the word "all."

9 CHAIRMAN STETKAR: I think that's the
10 next slide. Tim's fast, but you're a little faster.

11 MR. REED: That was perfect. That's
12 exactly what I was going to say.

13 MEMBER BROWN: Is that right? All
14 right. I quit. Thank you.

15 MR. REED: It is.

16 MEMBER POWERS: He's just reminding you
17 how slow you're going, Tim.

18 MR. REED: I know.

19 (Laughter.)

20 MR. REED: I'm trying to follow guidance
21 here and slow down. There you go.

22 MEMBER POWERS: Any work just his
23 personal guidance.

24 CHAIRMAN STETKAR: Comments on the
25 notion of reasonable protection and where it is.

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1 There you go. The starter cam has fired again.

2 MR. REED: All righty. So let's move to
3 loss of all AC power. This was an interesting one.
4 We got comments, as I say in the first bullet on the
5 slide, on both sides of this issue. We had
6 stakeholders that said that we didn't do the right
7 thing, that we didn't assume a loss -- a total loss
8 of all power.

9 In fact, that's what happened, you know,
10 Fukushima Unit 1, everything is gone including DC
11 power, everything -- why didn't we assume that?
12 And, of course, as you well know, this decoupled,
13 assumed damage state that we used to -- as a
14 practical means to develop the mitigation
15 strategies, assumed an extended loss of AC power and
16 a loss of warm axis to the ultimate heat sink.

17 And so that view was, hey, you didn't
18 assume the right. So we've got comments saying
19 that. Then we had comments on the other side
20 saying, hey, the only thing we need to do is --
21 there's a lot of AC power; what are you talking loss
22 of all power -- all AC power? We're allowed to have
23 the battery power if you're a GE or a direct digital
24 power. This is not.

25 So we had comments on both sides, and

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1 the correct answer is, no, you can assume extended
2 loss of AC power; that's what we assumed when we
3 developed the strategies. But in fact, you also
4 have to address the fact that you don't have any
5 power, and that's done by contingency. And that can
6 occur initially or any time during the event, and so
7 the framework actually has both of those in it.

8 And so our intent here is to, you know,
9 in this warning statement and consideration is to be
10 very explicit about that. This is what it means.
11 Yes, it's an assumed decoupled damage state to
12 develop the strategies. That's an extended loss of
13 AC power. That's a line for battery power. Okay?

14 But you must have contingency measures
15 to send to an operator to take local manual control
16 of your non-AC pump, typically like a turbine-driven
17 aux feedwater pump, and be able to operate that
18 manually, okay, with perhaps a multimeter in support
19 of trying to understand whether you're being
20 successful with that function. Okay? That is --

21 MR. E. BOWMAN: That is the multimeter
22 for obtaining instrument readings.

23 MR. REED: Okay. Like a flow-type
24 meter. So that's part of it. It has to be part of
25 the regulatory structure. And, in fact, that's what

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1 we're inspecting now under the order, so --

2 MEMBER BROWN: I think I might have
3 asked this question once before in another rule.
4 It's going to be in the statement of consideration.
5 I now see that that's --

6 MR. REED: Yes.

7 MEMBER BROWN: -- what that bubble says.
8 What legal basis do the SOCs have relative to the
9 rule language? Are they -- do people really read
10 the SOCs when they're developing their designs? I
11 think I asked this once before in another meeting,
12 and I forgot the answer.

13 MR. REED: Yes. I'll start, and I've
14 got Howard -- I actually have two attorneys here,
15 but -- after Howard, but the regulation, obviously,
16 is the TOC. I mean, that's the most important
17 thing, right?

18 MEMBER BROWN: Over here in the
19 regulation, not the --

20 MR. REED: Right. And so if you're --
21 once you get past the regulation, what's the next
22 most important thing in the statement of
23 considerations, the intent of the meaning and the
24 intent of the regulations. So that's the next most
25 important set of information.

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1 Howard, do you want to --

2 MR. BENOWITZ: I'm Howard Benowitz with
3 OGC. The rule language is the legally binding,
4 enforceable language. The language in the statement
5 of considerations is more like guidance.

6 MEMBER BROWN: That's what I thought it
7 was --

8 MR. BENOWITZ: We cannot enforce
9 something in the statement of considerations.

10 MEMBER BROWN: Then why wouldn't we put
11 this in the statement of considerations, in the
12 rule? Why wouldn't you put this clarifying language
13 into the rule as opposed to in the SOC? It's pretty
14 expansive and much more clear than just the generic
15 term "loss of all AC." I don't object to it as --

16 MR. REED: Yes.

17 MEMBER BROWN: I think these are good
18 things. It's just when you've got a critical piece
19 of --

20 MR. REED: What they're saying is --

21 MEMBER BROWN: -- people have a problem
22 with. What do you mean by that? And now --

23 MR. REED: It's interesting. My first
24 initial response was almost exactly the idea that
25 you guys have brought up with the flexible

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1 scheduling without that detail. My first response
2 is I want to say performance-based because
3 basically, in reality, everybody that is operating
4 right now is going to be in compliance with this
5 thing pretty shortly. And what it's going to really
6 apply to is the new reactor designs, and those are -
7 - could be considerably different.

8 So I tend to try to stay a little higher
9 and keep this in the SOC if possible.

10 CHAIRMAN STETKAR: My general take on
11 this is that every time in my life that I have tried
12 to develop an exhaustive list of everything, A, B,
13 through Z, I found later that I left something out.
14 Or if I decide that I don't need A through Z, that
15 only A through E, and everybody will understand what
16 that is, somebody is going to pin me down that said,
17 "Yep. You know, you should have said F, but you
18 didn't. You only put it A through E, so that's the
19 only thing that I want to" -- and that's why I think
20 the intent of the rule ought to say what the intent
21 is without being very specific about it means A
22 through E or A through F or the statements of
23 considerations or, as Dana mentioned, regulatory
24 guidance which then gets into the details more of,
25 how does one implement the requirements of a rule is

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1 where the elaboration on the detail is. Plus, in
2 practice --

3 MEMBER BROWN: It's not legally binding.

4 CHAIRMAN STETKAR: Hmm?

5 MEMBER BROWN: It's not legally binding,
6 so you get to argue about it, is my only --

7 MR. E. BOWMAN: Well, we had the
8 direction from the Commission to use a performance-
9 based approach similar to the approach used in the
10 (b)(5)(b) effort, and that direction was in the
11 staff requirements memorandum to SECY-11-0124. So
12 we followed that direction, and that's why the
13 language in the order was written at a high level as
14 it was and followed up with guidance that we
15 developed in conjunction with input from industry
16 and external stakeholders through a long series of
17 public meetings, and that's why we're carrying it
18 forward in the same manner in the rulemaking.

19 MEMBER BROWN: One of my concerns for
20 that high, high, high level approach, which, you
21 know, I understand the point of it, is how -- the
22 performance-based start process can be applied in a
23 manner which will allow defeating the fundamental
24 purpose of what you intended.

25 A specific example is when we are --

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1 relative to the digital I&C, the Commission
2 disapproved new rule language and said the new stuff
3 you do, part of that ought to be developed in
4 concert with performance-based requirements. And
5 I'm sitting here trying to think of independence as
6 a performance-based requirement where -- meaning,
7 okay, you can -- performance-based, does that mean
8 if you're not independent, you can try to convince
9 everybody that independent doesn't have to be
10 independent because you've said I can make it
11 performance-based, and I'd tell you I'm never going
12 to have a compromise with software and all of the
13 communication from channel to channel.

14 So I just think there is some -- I have
15 no problem. There are some points where
16 performance-based works nicely, and there is other
17 places where it doesn't work so well.

18 MR. REED: This is always a challenge in
19 rulemaking, how performance-based versus how
20 prescriptive. And when you become prescriptive, you
21 do get limiting, and then you set yourself up for
22 potential problems. And I'll tell you, even the
23 statement of considerations, even though it may go
24 into a lot of detail, that's not necessarily going
25 to solve the problem in the end.

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1 MEMBER BROWN: Oh, I understand. But
2 one of the things you can do when you do -- when you
3 do list something in a rule, say the intent of this
4 is, for example, but not inclusive, bang, bang,
5 bang, and you list a few things. So you've kind of
6 said I'm going to hedge my bet with a caveat here.
7 There are some examples of what we mean, but others
8 may be equally applicable.

9 So there is ways to cover that in the
10 rule without being prescriptive but give people an
11 idea as opposed to the generic, what do we mean,
12 because you -- this is obviously more expansive than
13 the generic look at these words right here.

14 MR. REED: I would do those examples in
15 the SOC or in the guidance, because one of the other
16 things we've got to be careful about is unbounded
17 rule --

18 MEMBER BROWN: Which guidance, the --

19 MR. REED: The actual reg guides that
20 endorse or the SOC, as Howard mentioned, the meaning
21 and intent, because one of the things you've got to
22 be careful about is putting examples that are
23 unbounded, so that the regulation becomes unbounded
24 and it's impossible to comply with. You've got to -
25 - you have to have a bounded --

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1 MEMBER BROWN: Yes, I understand that,
2 too.

3 MR. REED: Okay.

4 MEMBER BROWN: I'm just saying --

5 MR. REED: Welcome to rulemaking.

6 MEMBER BROWN: -- the guy that says
7 what's okay and not okay.

8 MR. REED: Yes.

9 MEMBER BROWN: So it's nice when you
10 have the final authority. Thank you.

11 MR. REED: Thank you.

12 CHAIRMAN STETKAR: Any other comments or
13 questions about this slide? It's five seconds of
14 silence, which is an eternity for you, Tim.

15 MR. REED: Yes. Thank you.

16 Multiple source term dose assessment,
17 backfit. This is something I -- backfit is
18 something I love and enjoy greatly. We got some I
19 think outstanding comments on our backfit
20 justification for the proposal. We had -- as you're
21 aware, we had proposed requirements in Appendix E.
22 These were actually built right into Appendix E to
23 have the ability to assess and monitor multiple
24 source terms.

25 A little history, this has actually been

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1 implemented. This is a voluntary initiative. It
2 has already been done. It's complete at the end of
3 2015. It really amounts to licensees building
4 better computer capability to monitor and assess
5 more than one reactor or spent fuel pool or whatever
6 combination you have on your site. And this is
7 actually in place right now. Before that, they
8 would have had to actually, as I understand it, run
9 it, kick out -- print it out, reset all the inputs,
10 do it for the other unit, add them together. It's a
11 very, you know, difficult process.

12 So we actually -- yes, sir.

13 CHAIRMAN STETKAR: You said it has
14 already been implemented at every site?

15 MR. REED: As I understand, yes.

16 CHAIRMAN STETKAR: Yes? Okay. Thank
17 you.

18 MR. REED: Yes.

19 CHAIRMAN STETKAR: I just wanted to make
20 sure that --

21 MR. REED: And everybody has committed
22 to maintain it, by the way.

23 CHAIRMAN STETKAR: Okay.

24 MR. REED: I think -- I'm not sure I
25 have it in the bubbles, but that's the --

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1 CHAIRMAN STETKAR: It says voluntarily
2 implemented by industry in 2014.

3 MR. REED: Right.

4 CHAIRMAN STETKAR: I just wanted to make
5 sure that it wasn't that -- you know, that it had
6 indeed been implemented at every site.

7 MR. REED: Yes.

8 CHAIRMAN STETKAR: Thank you.

9 MR. E. BOWMAN: And it's a computer
10 software capability.

11 CHAIRMAN STETKAR: I don't care how they
12 implemented it. The fact that they have it in place
13 --

14 MEMBER REMPE: Well, I'm curious, does
15 it take into account the weather patterns and
16 everything? Or what is this basis for it? Is it
17 RASCAL? What is it?

18 MR. REED: It's actually a better
19 version of RASCAL, as I understand.

20 MR. E. BOWMAN: A lot of them it's a
21 better version of RASCAL. Some licensees have their
22 own software systems that they develop that they
23 have upgraded to provide the same capabilities.

24 MEMBER REMPE: And NRC doesn't have any
25 sort of minimum threshold, like this has to be

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1 qualified or anything, or it's just, oh, we do it;
2 trust us, it's good software, or how do you say it's
3 acceptable?

4 MR. REED: That I don't know, although I
5 think actually in a lot of cases we -- actually, our
6 contractor developed the software and provided it.
7 This is a unique circumstance where the NRC has
8 actually provided the software to the licensee.
9 Now, some licensees have actually done their own
10 thing, too.

11 So, by the way, using this same software
12 to monitor the reactor would be required under
13 current requirements in Appendix E. So this same
14 set of software must be in place for a single source
15 for sure. Okay? But in fact can do multiple
16 sources, so that's what I was trying to maintain.
17 That's why you wouldn't change it or strip it out or
18 do anything, because obviously you need it anyway.
19 So that --

20 MEMBER REMPE: Thank you.

21 MR. REED: I was trying to get that
22 point across.

23 So the backfit justification basically
24 was -- you know, we said it was adequate protection.
25 We actually -- we kind of did, frankly, not a very

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1 good backfit justification. It was more of almost a
2 hand waving, and that's part of my -- that's my
3 fault.

4 CHAIRMAN STETKAR: Is that the notion in
5 the note? If I read the margin note it says,
6 "Multiple source term dose assessment requirement
7 cannot be imposed." Do you mean you didn't do an
8 adequate justification for --

9 MR. REED: That's right. Yes.

10 CHAIRMAN STETKAR: Okay. Because
11 another question I had is --

12 MR. REED: That's exactly it.

13 CHAIRMAN STETKAR: -- you mean you can't
14 impose it for some legal reason, or you just
15 couldn't justify that it --

16 MR. REED: I couldn't justify it under
17 backfitting provisions. That's correct.

18 CHAIRMAN STETKAR: Thanks.

19 MR. REED: And we went back and we
20 looked at that again, and, you know, clearly, when
21 you're talking about risk of multiple sources,
22 whether it's spent fuel in one reactor -- spent fuel
23 pool in one reactor or multiple reactors, we're
24 looking at extremely low probability events. It's
25 very low risk. It's clearly not even remotely close

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1 to something that rises to adequate protection, and
2 in fact there is really not even enough risk there
3 to get -- achieve substantial additional protection,
4 which if you'll recall this morning Bill was talking
5 about backfit. That would be under 51.09(a)(3).

6 So we looked at it and there is really
7 no reasonable chance of imposing under backfit. And
8 so the way it has been done now is it's already in
9 place, it's committed to, we're pretty confident it
10 will be maintained that way. And so it will be
11 treated as a voluntary initiative.

12 The guidance will remain in its -- the
13 guidance is already in our supporting regulatory
14 guidance, although it will be a voluntary
15 initiative. There will probably have to be some
16 confirming changes there, since it wouldn't link up
17 to an actual requirement. So that's really all I
18 wanted to say on multiple source term dose
19 assessment.

20 CHAIRMAN STETKAR: Any other comments,
21 questions, on -- okay.

22 MR. REED: Okay. The next one is, you
23 know, I think one of the best improvements to the
24 rule. We got some comments from folks. In fact, we
25 actually found this also when we were doing our TI

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1 inspections right now. There is confusion about
2 what we had proposed. We proposed to put staffing
3 and communications requirements that were almost
4 identical to what was put out in the 50.54(f) letter
5 of March 12, 2012, that went out and requested
6 folks, you know, look at staffing, do a staffing
7 analysis, look at communication capabilities
8 analysis, send that in.

9 We have built that into, if you will
10 recall, into what was Section 7 of the proposed
11 Appendix E. We had added a new section in there.
12 They were built in -- I think we still have
13 ephemeral. It was almost -- in a way, it was almost
14 like a one-time dead requirement that you could have
15 interpreted if you read it, "Hey, I only have to do
16 that one time and it's all over, that's it; forget
17 about that." Even though I tried to have change
18 control applied to it, and what have you, people
19 were confused about locating it there.

20 Does that have to be in Appendix E -- in
21 the E plan? Does it have to be in E-PIFS? Does the
22 50.50(q) -- 50.54(q) apply? So we've got a lot of
23 confusion. So one way to solve that problem,
24 actually improve the rule, is to move it out of
25 there, okay? And which we have moved it right into

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1 50.155, and link it up directly to the mitigation of
2 strategies, because obviously you need to have
3 enough people -- I mean, to be successful, that's
4 very, very important -- and you have to have
5 communications capability onsite and offsite to be
6 successful.

7 So we've built it in. We've linked it
8 right up to the strategies. Now it's living, it's
9 part of the rule, okay? There's no doubt about it
10 being a one-and-done type thing, and I think it's a
11 very -- it's much more coherent and I think a better
12 regulation. So that's what we did, and we have also
13 -- in the process, it solved a lot of other
14 problems, confusion, like I said.

15 And this one, in combination with the
16 last one, with the removal of the multiple source
17 term dose assessment requirements, ends up with a
18 lot of that language. If you go back in this thing,
19 you'll see a lot of struck-out language. And what
20 I'm really trying to say is, the rule now was
21 relatively complex at the proposed rule stage, and
22 now it has become much, much simpler. It is all in
23 50.155, except for 50.35(i) for a new -- if you're
24 going to have a new reactor under Part 50, or
25 52.80(a) or (b), for Part 52, okay, with two small

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1 changes in Appendix E that are still there.

2 Eric mentioned earlier about moving the
3 50.54(hh) exercise into 50.155, so we have to remove
4 that; it's a deletion. And we removed the word
5 "modem" from the emergency response statement. So
6 that's all that left -- that's left in Appendix E.
7 So now the rule I think is a little bit -- it's much
8 more concise, more understandable. I think that was
9 a big improvement. And like I said, these
10 regulations now become I think living and directly
11 linked to a successful use of mitigation strategies,
12 and I think it's a big improvement personally.

13 So this is -- I like -- this is an
14 example of how you can take a proposed rule and
15 really make it better with comments. So that's all
16 I wanted to say on this one.

17 MEMBER SKILLMAN: Yes. I think it fits
18 well where you have proposed that it should be. I
19 think it fits very well there. I think it pulls
20 this together properly.

21 MR. SCHULTZ: Tim, I agree with
22 everything you said. And the requirement is that a
23 licensee at all times will have sufficient staffing
24 to be able to implement what needs to be done.
25 That's simple. But in the comment that was

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1 provided, Alpha-22, it said this requirement would
2 be inspected and enforced through the NRC's
3 observation of drills.

4 And this kind of puts us back on that
5 eight-year interval train. I don't want to do that,
6 but I would rather suggest -- because if you only
7 look at this every eight years to see if staffing is
8 sufficient, then that's not good. And no licensee
9 would want to be prepared in that way, to
10 demonstrate it every eight years. It just doesn't
11 really make sense.

12 So I'd like to see that phrase something
13 like, in the statement of considerations or reg
14 guides, that audits and observations of the
15 licensee's emergency response organization plans,
16 procedures, drills, and exercise would be the way
17 the NRC would assure that staffing is appropriate.
18 Your opportunity to review what the licensees have
19 in place goes well beyond looking to see what
20 happens on any particular drill or exercise.

21 I know that it certainly comes to the
22 fore if there's a problem at that point, but the
23 onsite inspectors and anyone else has the
24 opportunity to challenge the licensee on that point
25 at any time.

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1 MR. REED: All right. Appreciate that.
2 Anything else on this slide?

3 Okay. Let's go to Slide 10, then,
4 revision of the spent fuel pool instrumentation
5 requirements. Hopefully, this might help in the
6 earlier comments about why we located kind of an
7 island there in (f). We got comments that we had
8 linked the spent fuel cooling instrumentation
9 requirements, of course, that we're making
10 generically applicable from EA-12-051, which, by the
11 way, is a completely independent order to EA-12-049.
12 They are not actually linked. They are two
13 independent orders. But that we had linked them to
14 50.155(b)(1), in fact we did. And so from a
15 requirement standpoint -- from a requirement
16 standpoint -- they are independent. They are
17 actually separate requirements.

18 The confusion comes in because just
19 about everybody -- I don't know if it is everybody,
20 just about everybody is using this information --
21 this level instrumentation to support the mitigation
22 strategies because it's very, very good
23 instrumentation; why not use it? Okay?

24 You know, licensees are always welcome
25 to use, you know, state the requirements and use it,

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1 right? I mean, that goes without saying. In fact,
2 they always do. And so certainly they are
3 voluntarily allowed to use it. Of course, when you
4 use it, it becomes part of your mitigation
5 strategies, and those requirements do apply to it.
6 Okay?

7 But my regulation has to set the actual
8 minimum requirements correctly, and the minimum
9 requirements are they are separate and independent.
10 So that's why it's sitting there in (f) by itself,
11 okay, as an island right now, because it isn't
12 proper from a regulatory standpoint to link it to
13 (b)(1), regardless of the fact that everybody in
14 fact is using it, I think everybody is using it that
15 way. I might -- a lot of people are.

16 MR. E. BOWMAN: It's at the guidance
17 level. There's a linkage in NEI-1206 to use the
18 spent fuel pool instrumentation from EA-02 -- or EA-
19 12-051.

20 MEMBER SKILLMAN: I'm fine with it
21 sitting where it is. It is just an oddity, but
22 there it is and no harm no foul.

23 MR. REED: I didn't have a whole heck of
24 a lot more to say about that. Okay. We'll go ahead
25 and --

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1 CHAIRMAN STETKAR: Five seconds of
2 silence.

3 MR. REED: Yes, sir.

4 MEMBER KIRCHNER: Why the choice of
5 reliable means? Probably there is history I am not
6 aware of for that particular capability of measuring
7 the water level.

8 MR. REED: That's --

9 MEMBER KIRCHNER: Is that a term of art,
10 too?

11 MR. REED: Exactly out of EA-12-051. I
12 think that's --

13 MR. E. BOWMAN: I think that's where it
14 came from.

15 MEMBER KIRCHNER: Does that imply some
16 safety grade or qualifications for that particular
17 instrumentation?

18 MR. E. BOWMAN: The spent fuel pool
19 instrumentation order itself had a lot of very
20 detailed requirements for --

21 MEMBER KIRCHNER: I remember that.

22 MR. E. BOWMAN: -- the quality of the
23 instrument. We have scaled back the wording so that
24 the wording for the requirement is what you see
25 here, because we felt it was appropriate to avoid

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1 trying the hands of new plant designers on how they
2 approach the problem.

3 MEMBER KIRCHNER: Thank you.

4 MR. REED: Anything else on Slide 10?

5 Okay. So let's go to Slide 11. We
6 actually brought this up a little bit earlier about
7 the flexible implementation provisions. So
8 hopefully we will -- maybe we can clarify some of
9 that a little bit more. We got comments that our
10 proposed two-year compliance state was -- is
11 actually not feasible. That's certainly true, I
12 think based on where people stand on addressing the
13 reevaluate hazards information. We understand that.

14 The proposal was to go to do something
15 more like a flexible implementation schedule. We
16 have done this in the past. We have done this in
17 the 1980s in 50.62 and 50.63. That was the rule in
18 the station blackout rule, have a flexible type
19 schedule. 73.54 is often used. That's the cyber
20 security rule. It was part of my power reactor
21 security rulemaking and is used -- that was actually
22 sent in as part of the plan and reviewed and
23 approved, and so that's a little different. But,
24 yes, there is some flexibility there.

25 So this is something legally we can do.

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1 I mean, that's the first thing you need to
2 understand. I think it's a -- it's an approach that
3 can allow us to address the fact that, you know, the
4 implementation is -- in terms of reevaluating
5 hazards at least -- is kind of all over the map.
6 And so I think we need to have some flexibility.

7 So what we tried to do is build in
8 something along the lines of what was suggested to
9 enable something to be sent in to us, so that we
10 could look at it. And if we don't act on it within
11 120 days, we would then -- it would be approved,
12 either still be the default to your compliance
13 state, so this would be -- you know, basically, we -
14 - we proposed it for this draft language for only
15 seismic.

16 I did that intentionally because I
17 wanted to see, in fact, if the flooding information
18 was an issue. We think -- we thought it might be.
19 I think we know it is for -- I think there's a few
20 plants that, in fact, probably will be addressing
21 reevaluated flooding hazard information. In fact,
22 some plants probably need to have both seismic and
23 flooding before they may do a modification. So we
24 understand that. So, yes, sir, you're --

25 CHAIRMAN STETKAR: So am I hearing you

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1 say that you are going to remove that restriction
2 for the -- in that paragraph (b)(2)(i) for -- right
3 now it just says "reevaluate seismic."

4 MR. REED: Yes.

5 CHAIRMAN STETKAR: Remove that and
6 extend it to -- you explicitly extend it to seismic
7 and flooding or just remove the restriction.

8 MR. REED: Based on what I understand,
9 it would be a lease -- by the way, anything I say
10 here today, you're talking to the staff and you --

11 CHAIRMAN STETKAR: It's the same as
12 you're only hearing individuals on the subcommittee.

13 MR. REED: Yes.

14 CHAIRMAN STETKAR: We got it.

15 MR. REED: Exactly. Last time I
16 checked, it wasn't the Commission. So I can't
17 guarantee --

18 MEMBER RICCARDELLA: There was an
19 earlier comment on the list of factors that may be
20 considered. Are you --

21 MR. REED: Yes, there was.

22 MEMBER RICCARDELLA: -- thinking you are
23 going to take --

24 MR. REED: And that was something I -- I
25 put that there to try to list a whole lot of things.

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1 Again, it's to draw comments here. You know, I
2 wanted to see what this committee thinks about it.
3 And, you know, we got -- I think you guys have some
4 very good points about, hey, any time you do a list,
5 you know, you could -- you could be limiting
6 yourself, and you might box yourself in.

7 So that's outstanding. We have to
8 definitely think about what we say a licensee needs
9 to send in in good cause in the rule versus -- good
10 cause versus the SOC.

11 I'm looking over at Howard to make sure
12 he's not correcting me. This is -- so but we are
13 actually trying to construct this thing to provide
14 that flexibility and ensure that it's basically, you
15 know -- first of all, we're not delegating
16 authority. We're not giving a licensee the
17 authority to change the regulation and set the
18 standard itself. That's always the NRC, that kind
19 of deal.

20 But also, at the same time, allow
21 flexibility, and ensure what they give us is in fact
22 something that is truly a good cause to support a
23 schedule. And if we don't like that, if the NRC
24 doesn't like that, that 120 days is there for us to
25 interact with the licensee, try to understand that

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1 better. And then, if we don't like that schedule,
2 we'd have to basically issue an order to countermand
3 the regulation, the automatic approval.

4 So the 120 days is to allow us to do
5 that process, because that -- I think you've got an
6 understanding of how difficult it can be to do
7 something like an order this morning. It's not an
8 easy process. But since this is a regulation, and
9 since it's an automatic approval, we'd actually have
10 to countermand something we did like with an
11 equivalent thing, which would be an order, just to
12 give you an idea.

13 MEMBER BLEY: Your expectation is two
14 years, unless there is some special problem --

15 MR. REED: Two years is definitely --

16 MEMBER BLEY: -- by the --

17 MR. REED: Yes.

18 MEMBER BLEY: -- the reevaluation.

19 MR. REED: And I think, and industry may
20 be able to explain all this and give a lot more
21 detail I hope. You know, Greg Bowman started off
22 this morning by giving you all a status in terms of
23 where people were on implementation of the orders.
24 Okay? And I think it was like basically 80-plus
25 percent of the spent fuel pools are --

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1 instrumentation is done, maybe 90 percent, and about
2 60 to 70 percent of mitigation strategies right now,
3 and it's -- so it's happening.

4 And so I think by the time this rule
5 becomes effective, and I think I'm giving this to
6 the Commission in December of this year, they have
7 to deliberate on it, I have to get the SRM, I'll
8 probably have a meeting with them again, an SRM. By
9 the time it goes into the Federal Register, it will
10 be probably summer or even fall of next year it
11 becomes effective. You're looking at 2017, late
12 2017, two years is 2019, so my -- where I'm going
13 with this is that I think basically everything will
14 be implemented, at least it's my hope, except for
15 reevaluate hazards. But that's something we need to
16 understand. If there's other areas that we need to
17 know about, we want to get that input.

18 So by putting this here, getting the
19 feedback we're getting here today, this will also
20 allow me then to establish another version of this
21 language, flexible schedule. And part of our
22 cumulative effects for regulation process is to --
23 during the final rule to have a final rule meeting
24 on implementation, only on implementation schedules,
25 and we'll probably have that in about the October

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1 timeframe when we are pretty -- pretty solid on
2 where we think the regulations are to do a final
3 check on, okay, what is it out there? Are we
4 providing, you know, a proper set of implementation
5 flexibility and schedules for what is going on?

6 So that's how this thing is going to go
7 forward. So that's all I have to say on this slide.

8 So move on to change control? Okay.
9 Change control was another really good set of
10 comments here on change control. We -- in our
11 proposed rule, we had -- I called it a change
12 control set of requirements, but in fact it really
13 isn't what you would understand to be a traditional
14 change control requirement, something like 10 CFR
15 50.59 or 50.54(p) or 50.54(q), where there is
16 actually criteria to judge whether something should
17 come to the NRC for prior review and approval or
18 not.

19 Our change control did not in fact have
20 that in there. It simply said, "Hey, comply with
21 the requirements, provide documentation so I can
22 come and inspect it," okay? And then I'll treat --
23 if I don't like what you did under inspection and
24 enforcement, that was the process. Okay?

25 And the rationale for that is because in

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1 terms of operating licensees there are no change
2 control provisions for beyond-design-basis
3 requirements at this time, the 50.150 for aircraft
4 impact assessment has something they call control
5 changes for new reactors. But if you look closely
6 at that, it points right back to the regulation and
7 says, "Meet this provision of the regulations" and
8 essentially does what we did also.

9 So we were aligned with that, but why
10 I'm citing this, they're no precedent to do this.
11 So what we're suggesting now is we got comments
12 that, hey, you should look at something. Look at,
13 as an example, reduction of effectiveness or
14 anything else. We -- in fact, when we developed
15 this thing, we -- in fact, way back when we were in
16 station blackout, mitigation strategies working
17 group we had done a lot of this work.

18 We had, frankly, not come up with
19 anything that was better and that complied with the
20 regulations. The basic concern here is really for
21 somebody who steps out aside of endorsed guidance.
22 If you're falling endorsed guidance -- and this
23 endorsed guidance is getting to be very large, well
24 over 200 pages, NEI-1206, with all of those
25 appendices -- you know, if you're inside that

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1 endorsed guidance, clearly that's an acceptable way
2 to meet the requirement and changes in there would
3 be acceptable, clearly.

4 If you have -- you know, if you are
5 using it -- somebody has an approved alternative on
6 another facility and you can show, hey, that applies
7 to me, I can demonstrate it applies to me, I'll
8 document that, I can apply that at my facility,
9 again, we're good with that. Those are two sets of
10 changes. Those aren't the problem. The problem is,
11 hey, how about somebody that says, "Hey, it's not in
12 anything, but I think I meet the rule, and I'm going
13 to change it," okay? That's the issue.

14 And, you know, our -- we talked about
15 performance-based requirements, and they're a lot
16 higher than the 200-plus pages of guidance. So the
17 concern is I could remove a lot of stuff that went
18 in here the last four years, several billion
19 dollars, and, you know, what could happen, have some
20 real issues.

21 So what I'm planning to do here on this
22 one is what we said, we're trying to enhance the
23 supporting SOC, to go after that last bit -- that
24 last bit of -- if there are licensees who want to go
25 out there and say, "I'm willing to take the

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1 licensing risk. So I'm going to go and change my
2 facility, even though it's not endorsed guidance.
3 I'm going to document it, and I'll just challenge
4 the NRC to come and inspect me, right?"

5 So that's the bit where I'm trying to
6 talk about what would clearly constitute not
7 demonstrating compliance. So I'm going to try to
8 close down that window and go after things that
9 would -- for example, a significant reduction in
10 these capabilities that we put in place for core
11 cooling, containment, spent fuel pool cooling
12 capabilities, or a significant change in the
13 fundamental attributes of FLEX.

14 You know, FLEX is built -- what? It's
15 built in there, so you have an ability to adapt it
16 to whatever happens. You know, we often focus on
17 this damage state that we assumed as a practical
18 means to put in place. But the thing was, it's to
19 be used for anything that might occur. So if you're
20 removing that flexibility and adaptability, then
21 you're defeating FLEX.

22 And just to remind people, it was put in
23 place under an adequate protection order. So what
24 I'm trying to do is build up the SOC to address this
25 a little bit better, hopefully provide greater

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1 clarity on what we mean here, and -- but stay the
2 course and call it what it really is -- the
3 documentation of changes.

4 So if you see -- that's basically what
5 we're doing right now. It's the course we're on on
6 change control.

7 You guys are getting worn out or
8 something. I --

9 (Laughter.)

10 CHAIRMAN STETKAR: Always on these types
11 of things, I always look for Dick and Harold to
12 chime in. If they don't have any problem with it,
13 then, I mean, typically we don't, because they have
14 lived in this environment of how you can play the
15 games in change control.

16 MEMBER SKILLMAN: No, I'm good with
17 what --

18 CHAIRMAN STETKAR: And I haven't.

19 MR. REED: Actually, I have, too. I was
20 a consultant in industry. I changed a long time
21 ago. Yes.

22 CHAIRMAN STETKAR: Okay. Any other on
23 change control? 13.

24 MR. REED: Okay. You mentioned earlier,
25 Mr. Stetkar, maintenance.

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1 CHAIRMAN STETKAR: Yes.

2 MR. REED: Paragraph (c). This is where
3 it will come up here, on this slide. There is more
4 changes. We have talked about -- it looks like you
5 went through the draft rule. Greatly appreciate
6 that detail. We tried to improve other aspects of
7 the rule. We have mentioned in the beginning we
8 couldn't address everything, but we tried to clarify
9 -- we got some great comments I think on suggestions
10 for clarifying our decommissioning provisions in
11 (a).

12 Basically, the same approach, but making
13 then clear in terms of how you remove these
14 requirements, these beyond-basis event requirements,
15 as you proceed into a decommissioning process. So
16 we are trying to do good regulation. I just -- I
17 wish we knew today what we -- wish we knew a long
18 time ago what we know today. We could have built in
19 decommissioning provisions for everything, and we
20 probably wouldn't have a decommissioning rulemaking
21 effort going on right now.

22 So we're trying to do the right thing
23 right now, as you're well aware, in (a)(3). So
24 those changes are there to clarify those
25 decommissioning provisions, and I think they do

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1 clarify, make it a little bit more understandable at
2 a very high level.

3 Changes to (c), I wanted to pull out
4 this one and change -- in (c), you see some
5 editorial changes in (c). This goes to the
6 maintenance provision that you brought up earlier,
7 Mr. Stetkar. Basically, at a high level, when we
8 were going through the late parts of the proposed
9 rule, we were going -- this maintenance rule
10 provision really is essentially redundant, would
11 develop, implement, and maintain under (b).

12 And there is a problem here. When you
13 have two things that can mean the same thing, and
14 you're using two different sets of words, you can
15 get into a confusion situation down the road,
16 because somebody can say four or five years from
17 now, wait a second, develop, implement, and maintain
18 under (b)(1) cannot be maintenance because you have
19 the maintenance requirement over here.

20 Well, we actually meant it -- both of
21 them as being maintenance, and so one of the first
22 things you want to do is, now that we want to use
23 the exact same words that we have meant under the
24 order, EA-12-049, same words mean the same thing.

25 MR. E. BOWMAN: But part of that was

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1 because under the order, which used the develop,
2 implement, and maintain, but didn't have an
3 equipment maintenance requirement separate from
4 that, as implemented, it's not just maintenance;
5 it's maintenance and testing. And we had a few
6 other suggestions of wording to add to the
7 description of what that "maintain" meant. So we
8 felt it was better, and we asked the specific
9 question in the proposed rule, FRN, on the subject,
10 to be sure that we got it all covered.

11 MR. REED: Yes, sir.

12 CHAIRMAN STETKAR: Two things that
13 jumped out at me. You have -- I'm still not
14 convinced that it's a good idea to remove that,
15 because -- and I'll play both sides of the coin
16 here. You have retained a requirement that the
17 equipment shall have demonstrated capability and
18 capacity. Now, how can I maintain my strategy if
19 I've got a pump that will only put out 2 GPM when I
20 -- my strategy requires 200 GPM? So I'm not sure
21 why I need a separate requirement to maintain
22 capability and capacity for equipment. Okay?

23 So I'll say, well, why have we called
24 out capability and capacity of equipment separately
25 from the notion of developing, implementing, and

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1 maintaining a response capability that focuses on
2 strategies? See, the problem is that (b) focuses on
3 strategies; it doesn't focus -- so a strategy is to
4 use all of this stuff except for the fact, oops, I
5 forgot that I needed a 200 GPM pump.

6 Okay. The capability and capacity
7 focuses on the notion that I need a 200 GPM pump,
8 and I can demonstrate that it puts out 200 GPMs.
9 Availability and reliability of said pump focuses on
10 something that I think maintenance was too specific.
11 It focuses on preventive and corrective things like
12 making sure bolts are torqued or whatever.

13 But the notion that it should be
14 available and reliable in some sense, that
15 equipment, that pump might be lost, and the question
16 is, do we want to lose that? Given the context that
17 you have retained this notion, that it needs to be -
18 - have adequate capacity and capability to perform
19 its intended function, 200 GPM versus 2 GPM. So I
20 couldn't understand why you removed the concepts of
21 -- instead of calling maintenance, I'll call
22 availability and reliability of the equipment,
23 because you somehow said, well, it's included in the
24 term under (b), maintain an integrated response
25 capability.

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1 But, see, when I read (b), I read it
2 more through the entire strategy. And I say, "Well,
3 yeah, we have the strategy. We're making the
4 strategy. We just let the pump rust." So I -- you
5 may want to rethink that. I don't know what sort of
6 comments you've had from the industry on it.

7 But if you retain it, I wouldn't focus
8 on adequate maintenance shall be performed. I would
9 -- you know, somehow I came up with -- I'll put this
10 on the record, so you can -- each licensee shall
11 implement programs to ensure that the equipment
12 relied on for the mitigation strategies in paragraph
13 (b) had adequate reliability and availability for
14 its intended use, or something like that that says -
15 - that doesn't say "maintain it." It just says you
16 have to have some program in place to have
17 confidence that it will work when you try to use it.

18 MR. E. BOWMAN: I like those words.

19 CHAIRMAN STETKAR: So it's on the
20 record. You can read it.

21 CHAIRMAN STETKAR: They do capture a lot of what's in the guidance level.
22 In NEI 12-06, they point to the use of some input documents, I think it's AP 19.13 on equipment
23 reliability.

24 The problem that it would pose us, and it's -- we already interpret the
25 requirement to maintain the strategies is incorporating the need to do that, but to put that in as rule

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1 language would probably trip us up with the Administrative Procedures Act requirements.

2 MR. REED: It's interesting you brought the capability capacity because that
3 was something where we -- it came up -- we stumbled across the same thing. We removed this
4 maintenance, we don't actually need that one either because that's developed in the maintain. That
5 falls under it, too.

6 So, you actually, you ended up stumbling now to the C-1 which is also
7 something we were looking up. I'm not sure we really need C-1 either, you know.

8 It's interesting, so, there's --

9 MEMBER BLEY: Well, if you don't have C, and I thought John was going to
10 leave something out, but he had for the intended use, which implies it's got to have the capability
11 that's defined in B.

12 But, if you don't have the maintenance requirement, some notion of
13 availability and reliability needs to be in B, I think. Because I can have a pump that was shown to
14 pump enough water, but, if we don't maintain the reliability and availability, it won't be there when
15 we need it.

16 CHAIRMAN STETKAR: But, I just don't -- I think I get how you walk into this.
17 On the other hand, when I read B, I read B more toward the strategies.

18 I have the plans. I have -- I don't care whether you call them EOPs, SAMGs,
19 FSGs, EDMGs, all of that kind of stuff and that I have people who are trained on that, that I have. You
20 know, those are strategies.

21 And, it, yes, to implement those strategies, you need to have equipment, the
22 right kind of equipment and it's got to be there when you need it.

23 MR. REED: Yes, it's got to be able to perform its function.

24 CHAIRMAN STETKAR: But, if you want to, in the rule, emphasize the notion
25 that, yes, you need the right equipment which is the capability and capacity aspect. Then, you ought

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1 to, in my opinion, reinforce the notion that it ought to be reliable and available when you need it.

2 And, I think, I personally think it's worth reemphasizing both of those things
3 just because of some of the experience, you know, that we had in the B5B world.

4 MEMBER SKILLMAN: I'd like to weigh in and support John. I think that, in
5 addition to just communicating that is a required ingredient for this piece of rulemaking.

6 Let me say it again, Tim and Eric, I want to support John. I believe this addition
7 is a requiring component for this portion of the rulemaking. I think it's --

8 MR. REED: I was actually talking about how maybe through the SOC, trying to
9 get -- because I do think we, through this in the final rule, it would be, whoa, we never saw this before.

10 And, in this decision, you didn't know this, you didn't give me an opportunity
11 to comment. That's balance. And, then, it's like, well, this is in the infrastructure. This is actually part
12 of the current infrastructure.

13 MEMBER SKILLMAN: I think the thinking people that operate these plants
14 already know --

15 MR. REED: Yes.

16 MEMBER SKILLMAN: -- that this needs to be there. So, I don't think that this
17 would be a surprise although --

18 MR. REED: Yes.

19 MEMBER SKILLMAN: -- I think that they could take a legal look and say, hey, I
20 don't need to do this.

21 MR. BENOWITZ: And, we can look at this as a potential logical outgrowth. I
22 mean, what Eric and Tim were talking about, the APA restriction is that, if there's something new in the
23 final rule that the public did not have an opportunity to comment on in the proposed rule, but the
24 Supreme Court has carved out as exception for something that we can call a logical outgrowth of the
25 proposed rule.

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1 So, we'll definitely think about and see how we can approach that.

2 CHAIRMAN STETKAR: We're having a little side conversation. Now, I got one
3 put by all of that.

4 But, thanks.

5 MR. REED: That's all I intended to cover today in terms of our path forward
6 and the substantive comments and that giving you the opportunity to give me an idea on walking
7 through this subdraft of the final rule and get your feedback from.

8 We certainly appreciate the detailed review. Obviously, the members did and
9 then the comments that we've gotten.

10 VICE CHAIR CORRADINI: You forgot to include a question slide. How are
11 they going to know to ask questions?

12 MR. REED: I didn't -- I figured I didn't have to tease them on asking questions.
13 And, also, I didn't have to tell them it was the end or anything.

14 CHAIRMAN STETKAR: I mean, heck, this is only a few pages. You ought to see
15 the pages of comments I have on that thing that Eric has been holding up there, heck, that's only a
16 couple hundred pages. So, you know, this is -- you do this kind of on the bus to work in the morning.

17 Any other comments or questions for the staff on this? If not, thanks a lot. You
18 organized this really well. Thanks.

19 And, I'm glad you organized it the way that you did with a slide on a topic. I
20 think that really helped me, I know, get through this.

21 MEMBER RAY: John?

22 CHAIRMAN STETKAR: Yes, Harold?

23 MEMBER RAY: Before we leave here, I've been thinking about what you said.

24 All that we've been doing, I can't find fault with it at all. I support it, believe in
25 it and so on.

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1 But, there's one thing that I hope you guys have as a question in the back of
2 your mind. And, I say this having run a training program, but also having been on the accreditation
3 board for training.

4 It still remains the most important focus of management and the personnel
5 who operate the plants to be prepared for the expected events, really well prepared.

6 And, we need to be sure, and I don't know how to do this, but that we're not
7 diluting the ability to respond to expected events by our focus and emphasis on beyond design basis
8 events.

9 The provisions we have there need to be usable. They need to be things that
10 we can use if needed.

11 But, we've got to make sure we're not, and this, I think, goes to the licensing
12 management, perhaps more here us at the Agency, but, we've got to make sure that we don't distract
13 from the very tough job of having people who run the plants. And, John's had a license so, he can
14 relate his own views on this.

15 But, that they're able to respond to what we expect to have and do so very,
16 very effectively, just like when we get on a plane and fly, we expect the pilots to be able to respond to
17 what the expected events are as well anybody can.

18 So, that's not meant to detract at all here, but when we get into some of these
19 things, we -- I have a feeling we're going beyond where we want to be at times, at least in our thinking,
20 about ensuring absolutely -- it's almost like we're incorporating this stuff into the expected event
21 training and preparation and maintenance and so on.

22 And, there's nothing I can say that is specific to say, well, we shouldn't be doing
23 this or we shouldn't doing that. But, somehow, we've got to keep perspective so that we don't cause
24 people to be so prepared for beyond design basis events that we inevitably create those events by not
25 managing the expected events the way we need to. Okay?

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1 MR. REED: Thank you.

2 CHAIRMAN STETKAR: Anything else for the staff? If not, again, thanks a lot
3 for pulling all of this stuff together.

4 And, by the way, my own personal opinion is that I think it is coming together
5 a lot better than the version that we saw, you know, whatever it was not quite a year ago.

6 MR. REED: Were there some real SOC?

7 CHAIRMAN STETKAR: I just -- we'll talk offline about, you know, when SOCs
8 get enough to help us along.

9 With that, we -- let's take a 15 minute break. We have comments from the
10 industry and time for public comment. So, let's reconvene, I'll be generous, 16 minutes at 3:30.

11 (Whereupon, the above-entitled matter went off the record at 3:13 p.m. and
12 resumed at 3:30 p.m.)

13 CHAIRMAN STETKAR: We're back in session.

14 We're going to hear from the industry now. Andrew, are you going to start or
15 Phil

16 MR. MAUER: Yes.

17 CHAIRMAN STETKAR: Andrew?

18 MR. MAUER: Thank you.

19 Good afternoon, Mr. Chairman and Subcommittee Members. I'm Andrew
20 Mauer with NEI and, this is my colleague, Phil Amway, from Exelon.

21 I wanted to begin by saying that my colleague, Jim Riley, sends his regards that
22 he was not able to make it. He had a personal matter that came up.

23 So, we're going to do our best to cover for him. As you know, he has been
24 briefing you periodically on this rulemaking and our comments on it.

25 So, I'd just like to begin today by saying that, obviously, this is a very significant

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1 rulemaking and we think that significant progress has been made on it.

2 You know, we sent in a comment letter that we've talked about previously.
3 We shared our comments with you back on April 22nd. It was probably a 100 or so page comment
4 letter worth of comment. Obviously, now, we're looking at an updated version of the rule language
5 and, again, I think there's been significant progress there.

6 One comment that you made in the last session was, obviously, the need to
7 see and review statements of consideration and the supporting material.

8 So, obviously, we, too, are looking at a limited set of information here. But, an
9 importance that, obviously, the rule is critically important of all that stuff.

10 So, we also look forward to reviewing all of that information.

11 The focus of our presentation today is really on this document that was
12 provided to the Subcommittee looking against the comments that we've provided previously to look
13 at how they may or may not have been resolved and see if we still have any deltas there where we
14 think further clarification would be helpful.

15 And, I think each of the things that I'll go through certainly were covered to
16 some degree earlier.

17 So, on the implementation --

18 MEMBER BROWN: Before --

19 MR. MAUER: Yes, sir?

20 MEMBER BROWN: Before you go on, if you're going to go through each of
21 these, which, you know, you had documented in your letter, it's in the body of the letter also, I think,
22 most of these look like they were there, are you going to address NRC's action on to date to your
23 knowledge or is it -- if I'm looking, this looks like what you all proposed about whether you all had any
24 of these adjudicated or not.

25 MR. MAUER: Actually, yes.

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1 MEMBER BROWN: But, you're going to tell us that? That's all.

2 MR. MAUER: Thank you for that comment.

3 I would say that, you know, to the extent that the titles here cover the
4 significant areas from before, they do, but the details here, I'd say, are built on the current iteration of
5 the language.

6 So --

7 MEMBER BROWN: You mean they're against the current iteration?

8 MR. MAUER: Correct.

9 MEMBER BROWN: So, they're not incorporated as you all would envision
10 them, is that correct?

11 MR. MAUER: Well --

12 MEMBER BLEY: It's against, from what Charlie said, isn't -- this is matched
13 against this it's you're opposed to? That's what you're saying, Charlie, right?

14 MR. MAUER: So, we --

15 MEMBER BROWN: Okay, so we'll let the proposed rule language and you all
16 had some suggested changes?

17 MR. MAUER: Correct.

18 MEMBER BROWN: Have any of those suggested changes been incorporated
19 into the new rule?

20 MR. MAUER: Absolutely.

21 MEMBER BROWN: That's all -- if you're going to tell us that they were happy
22 with the incorporation or not?

23 MR. MAUER: I'm not planning to talk to the things that we're happy with. I'm
24 just planning --

25 (Laughter.)

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1 MEMBER BROWN: No, no, no, that's --

2 MR. MAUER: Well, I can if you'd like.

3 MEMBER BROWN: This is just the items you're not happy with?

4 MR. MAUER: Well, there's a few clarifications and key language that we think
5 is important to take a look at as this thing moves forward over the next few months here.

6 MEMBER BROWN: Okay.

7 MR. MAUER: So, these comments in these slides are based on the current
8 iteration of the language.

9 MEMBER BROWN: Which --

10 MR. MAUER: They cover the same themes that we've covered previously, but,
11 obviously, there's been movement in these sections.

12 MEMBER BROWN: But not fully as you would desire?

13 MR. MAUER: We think there's no further improvements.

14 MEMBER BROWN: Okay. They're not incorporated the way you all had
15 intended. That's all I wanted to make sure I understood.

16 MR. MAUER: Sure.

17 Okay, so, going to the implementation schedule which, again, was talked
18 about previously. Recall in the comments that we submitted and briefed you on previously, we
19 proposed that, instead of having a hard two-year implementation schedule, that the licensee submit a
20 schedule for compliance.

21 That was reviewed by the NRC and reviewed and approved by the NRC.

22 As we talked about -- or as we discussed previously, there appears to be
23 certainly a move in that direction with respect to where the language is headed and there was
24 discussion earlier and we'll get to some of the details on that in a minute.

25 But, a couple of the key points that we wanted to make clear, one was, you

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1 know, our comment was focused on not just limiting the look at the implementation schedule to the
2 seismic hazard.

3 Obviously, the seismic and flooding mitigating strategy assessments are going
4 to be done somewhat in a parallel timeframe. Then, also, implementation of any plant modifications
5 as a result needs to be looked at in an integrated manner.

6 So, we don't think it should just be limited to seismic. And, I'd say, on top of
7 that, there might be other aspects of the rule, as well, where the implementation schedules are a little
8 different.

9 For example, there's been some different schedules for vent orders and that
10 sort of thing. So, we just want to make sure that the licensees have an opportunity to submit a
11 schedule for compliance with the rule consistent with some of the factors as we've got here in the
12 staff's proposed language.

13 And, you know, taking other safety significant licensee activities into account.
14 And, obviously, there'll be a further meeting, it sounds like, in October on cumulative effects on
15 regulation relative to the implementation schedules.

16 So, overall, our comment is, we think it's appropriate to not limit the
17 opportunity for time beyond two years in those cases where it's necessary.

18 But, at this time, we think the primary emphasis there is on seismic and
19 flooding.

20 One of the, I'd say, concerns that we have with the current version of the
21 language is, instead of submitting a schedule, it sort of flips it around and says, you need to come in
22 and ask for an extension.

23 And, to us, it just doesn't sound right to have to go through and ask for an
24 extension or an exemption when, we know going in to the rulemaking, that the schedules for these
25 activities are going to go past that date.

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1 So, if we know that going in, and we do, for the mitigating strategy
2 assessments, they go out into the out years, and plant modifications following.

3 We know that two years is not going to be sufficient in a number of these
4 cases. So, to us, it doesn't make sense to call that an extension or an exemption. So, we'll get to a
5 proposal I think that can -- that might be able to address that.

6 And, then, finally, the other point in here is, in the proposal, it called for the
7 licensee to submit, in this case, an extension within 90 days and the staff approval within a 120 days.

8 There was some concern there that we'd be working on implementation with
9 potentially up to four months of our implementation schedule sort of being eaten up by the staff
10 review. Does that make sense?

11 So, the idea and our suggestion is really just to align the 90 days and 90 days
12 and see if we can get 30 days of that back, if you will.

13 So, to get into the details, hopefully, you can see that. You've got a hard copy
14 there.

15 The first change here that we're proposing is really to not limit it to the
16 reevaluated seismic hazard.

17 The second change is to build on the current language and, instead of calling it
18 an extension request, simply call it a proposed schedule for compliance and you can keep a lot of the
19 same information in here to the extent from the previous discussion of that -- some of that decides to
20 move elsewhere, so be it.

21 We don't have a concern with the way that's laid out in here.

22 I don't necessarily need to go into all these changes, but that's the way the
23 focus of our comments here is to move it away from an extension request and keep it more in line
24 with the proposed schedule for compliance and to not limit it to seismic.

25 Anyway, it's a suggestion. Obviously, as with any of this, you know, we're not

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1 the rule writers. You know, there's a lot of experience in writing regulations and perhaps it's easier to
2 come in here and strike stuff out and add words. But, we think these are the kind of words that would
3 be helpful.

4 MEMBER MARCH-LEUBA: Do you think that 90 percent of the plants will ask
5 for the extension or 10 percent of the plants will ask for the extension? What are you thinking about?

6 MR. MAUER: So, let me take -- if I was looking at seismic alone because I'm
7 more familiar with the seismic schedules and we're not looking at it alone, but let me just speak to that
8 to give you some perspective.

9 So, as we know, we've been -- we have five different paths. The first path of
10 plants are bound, you know, so we have -- well, we have a number of sites there that will not need to -
11 - will not need additional time.

12 The second path is for those that have the high frequency exceedance, we'll
13 have to see where those evaluations come out and what kind of modifications are needed. But, at this
14 point, I would say, we're not anticipating additional time will be needed.

15 For path three which is based on the IPEEE, again, depending on where that
16 comes out, you know, we don't know, but there's really just a couple plants doing that.

17 But, then, we get to path four and path five where we're talking about
18 modified FLEX or relying perhaps on the SPRA. We do, you know, to the extent that modifications are
19 coming out of those activities, we would expect that those plants will go beyond that time frame.

20 And, to put that in perspective in terms of numbers, because that's what you
21 were asking for, we have, at a minimum, 14 sites that would need to follow path five.

22 And I want to say about 15 that would need to follow path four. So --

23 MEMBER MARCH-LEUBA: And, you're saying more so path five won't be able
24 to make it in two years?

25 MR. MAUER: Correct. Well, correct --

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1 MEMBER MARCH-LEUBA: Additional?

2 MR. MAUER: You know, see, the thing is, right now, we don't have any of the
3 SPRA results. Okay? We're still working on the SPRAs. Those are going to be submitted between
4 2017 and 2019 and then, we need to go back and apply a mitigating strategy assessment based on
5 that. And, we just don't know where it's going to come out. So, it would be speculation.

6 MEMBER MARCH-LEUBA: Yes, but, reading in between lines, if this is not an
7 exception it is the rule.

8 MR. MAUER: Yes, I'm not willing to say it's 90 percent, but we -- but, the point
9 I was trying to make is that, it's obvious that there's going to be a number of plants that are going to
10 need more than two years. So, let's not call it an extension.

11 MEMBER RICCARDELLA: There were some comments earlier about
12 eliminating that second part of this that gives the list of examples. How does NEI feel about that?

13 MR. MAUER: You know, from our standpoint, we heard that discussion. We
14 were okay with the list in there. But, I think building on that, we were thinking maybe, you know, may
15 include, but, you know, perhaps there could be some language if we keep it, you know, but are not
16 limited to -- there might be another qualifier that we could work in there. But, we didn't have an initial
17 concern with that.

18 MEMBER SKILLMAN: Andrew, is there precedent for use of that last sentence?
19 That last sentence basically says, licensee proposes a schedule and, unless there is some feedback to
20 the contrary, there is the assumption that the Commission has approved that proposed schedule.

21 Isn't that pushing the envelope pretty hard?

22 MR. MAUER: You know, fair point. We're really just playing off of sort of that
23 negative consent that's already in there relative to submitting an extension request.

24 That's the way it's being proposed right now, is submit an extension request
25 and it's sort of a negative consent.

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1 So, I can't speak to whether there's a precedent for that, but we were using that
2 same premise.

3 MEMBER SKILLMAN: And, I hear your position or the industry's position
4 would be, unless there is push back, then that is acceptable.

5 MR. MAUER: Again --

6 MEMBER SKILLMAN: Obviously, yes, that's what you've proposed.

7 MR. MAUER: Again, we had an initial suggestion. You know, there's some
8 movement, obviously, on this aspect of the rule and we were trying, you know, our effort here was to
9 be constructive based on where that stands today.

10 So, I understand what you're saying and I don't, you know, if the Agency wants
11 to approve that schedule, that's consistent with our original comment. So, it's really just using the
12 staff's language here but our original comment was that the Agency would approve it.

13 MEMBER SKILLMAN: Okay, thank you.

14 MR. MAUER: Yes.

15 MEMBER REMPE: Out of curiosity, this rule draft has been around for a while,
16 have you mentioned this discussion of proposed schedule versus an extension request to the staff
17 before and they disregarded it?

18 And, I know if I look through your letter back on February 9th, maybe I could
19 find it, but have you brought this up before?

20 MR. MAUER: Yes, I mean, the nature of our comment previously was very
21 short and concise and it said, licensee should submit a schedule for compliance within 90 days of the
22 effective date of the rule. It was something to that effect.

23 And, so, to your point, we haven't had that discussion. Obviously, there
24 haven't been any public meetings since we submitted our comments on that. But, just based on the
25 discussion earlier today and looking at the staff's slides, I'm not anticipating that this is necessarily

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1 going to be a sticking point.

2 MEMBER REMPE: Thank you.

3 MR. AMWAY: Yes, this is Phil. Just for a point of clarification, the words you
4 see on this slide here are the same as you saw in the markup of the rule under 502(l). We're just
5 proposing it be relocated to Hotel 3 to make it applicable to the entire above section, not just limited to
6 the reevaluated hazards under Bravo 2.

7 And that we use the same language with the exception of what you see in red
8 is what we're proposing to add and the strikeout is what we propose to delete.

9 But, otherwise, it's the same language that's in there and that's how they
10 responded to our comment, saying we needed a flexible schedule.

11 MR. MAUER: And, I'm not necessarily familiar with the other comments the
12 staff received. Obviously, they're considering a number of comments that they received in the
13 rulemaking.

14 Would you like me to move on?

15 CHAIRMAN STETKAR: It's kind of a, if there's five seconds of silence, take
16 advantage of it.

17 MR. MAUER: Got it. All right, so that was one of the more complex areas here.

18 The next area is on change control which was formally document, or excuse
19 me, formally change control and now called documentation of changes.

20 The comments that we submitted previously, we think, have been adequately
21 addressed. There's one change reflected in the current markup here in 50.155(g) that deals with
22 documentation of changes.

23 And, the part of that that we have a concern with is documentation of changes
24 made under this section, until the requirements of this section no longer apply.

25 There's a word "all" in there and that word "all" in my experience has been

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1 problematic, that we've, you know, we've seen that word "all" in other regulations.

2 There's not flexibility there and we think that the kind of changes that would
3 need to be -- that we would need long-term retention on are things that we can address through a
4 guidance document.

5 So, our suggestion here is sort of twofold. One is, we think the word "all" is
6 unnecessary with respect to the regulation.

7 And, then, that we can either help develop guidance or there can be guidance
8 in this statements of consideration as part of the rulemaking that clearly articulate what changes need
9 to be retained.

10 And, our proposal is that it's only changes in compliance methods, not changes
11 that maintain fit, form and function.

12 So, hopefully, this isn't intended to be that big of a deal, but that word "all"
13 we've seen it before in other regulations and, to the extent we can get that right at this point in the
14 rulemaking before it goes to a final rule, I would just say, in my experience, there isn't really any
15 flexibility later on once we have a word like that in the regulation. I've seen that.

16 MEMBER RICCARDELLA: May I ask a question of clarification on your intent
17 on that second bullet?

18 You say just documentation of change and compliance methods not changes
19 that maintain fit, form and function.

20 But, the rule includes equipment in the strategies, right? So, could you just tell
21 me what fine point you're making here?

22 MR. AMWAY: Yes, if I can give you an example.

23 MEMBER RICCARDELLA: Sure.

24 MR. AMWAY: I have a FLEX pump and the FLEX pump is Manufacturer XYZ.

25 And, they can produce a 1,000 GPM at 350 pounds discharge pressure at the discharge of the pump.

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1 Ten years goes by. I need a new pump. Manufacturer XYZ is out of business. I
2 go to Manufacturer ABC, they can give me a pump that'll produce 1,000 GPM at 350 pounds discharge
3 pressure. So, it has the same fit, form and function of my previous pump.

4 I want to be able to replace that under my existing procurement process which
5 has its own document retention requirements that I would follow and not have to follow it under here.

6 Now, the flip side of that, I can't find one that'll produce the same thing.
7 Maybe it's only 900 GPM at 350 pounds discharge.

8 Now, that has a potential impact my hydraulic analysis I did to say, 900 GPM is
9 still sufficient, in which case, that would be something I'd want to have to document and retain under
10 this provision.

11 MEMBER RICCARDELLA: Thank you.

12 MEMBER SKILLMAN: Phil and Andrew, it seems to me that in your
13 justification for eliminating "all" you may be throwing out the baby with the bath water. Here's why.
14 As onerous as that small word might be interpreted to be, that is the foundation of your configuration
15 management program.

16 And, so, even though that is regarded as onerous, that puts the burden on the
17 licensee to truly keep track.

18 Let's talk about the flip side. Licensees that have not demonstrated a high level
19 of discipline to configuration control almost always find themselves in Appendix B Criterion 3 design
20 control violations.

21 And, you might say, well, this is beyond design base and, hence, probably that
22 is not applicable. But, the spirit of that requirement in Appendix B is to make sure that the people that
23 are making the changes really understand what it is they're dealing with.

24 So, you've got Criterion 3 which is design control and change control. So, it
25 seems to me that in your zeal to get rid of the "all" you may be giving up more than you're gaining.

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1 completely -- because I'm looking at a scenario for which I can use Joe and Joe is available.

2 MR. MAUER: Well, to the extent that we're using --

3 CHAIRMAN STETKAR: So, it does apply to the whole plant, doesn't it? I mean,
4 I don't get this -- this is a really some -- I don't get this nuance and I don't know why you're concerned
5 about it, quite honestly.

6 MR. MAUER: You know, that's a good point. Well --

7 CHAIRMAN STETKAR: On one hand -- in other words, something that I was
8 saying earlier is, I want to have in my scenario specific assessments, whether -- and, I'm thinking
9 flooding now mostly --

10 MR. MAUER: Okay.

11 CHAIRMAN STETKAR: But, if I'm taking a path five flooding approach where
12 I'm using a specific scenario or a targeted strategy, I want to be able to have -- I, as an operator, want to
13 have the flexibility to use that other pump that's not identified in any of my mitigating strategies under
14 (a).

15 MR. MAUER: Well, it seems so --

16 CHAIRMAN STETKAR: And, that's kind of a plant level perspective.

17 MR. MAUER: That's right. I mean, so part of (a) is either confirm that you're
18 mitigating strategies are good or modify them. And, to the extent you need to modify your mitigating
19 strategies and use that pump, then you would do that and that would be part of the equipment that
20 would come into your --

21 CHAIRMAN STETKAR: But, then, does that pump become part of my
22 mitigating strategies for everything? Me ELAP and loss of ultimate heat sink?

23 MR. MAUER: For that hazard, for that success path for that hazard.

24 So, kind of to frame this for you, you know, we're looking at the impact of the
25 reevaluated hazard for seismic and flooding on the entire plant through the seismic PRA and through

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1 the integrated assessments.

2 CHAIRMAN STETKAR: Right.

3 MR. MAUER: Okay? So, that, as was discussed in the morning, that's an effort
4 being done under 2.1 that's looking at the entire plant.

5 Here, in mitigating strategy space, we're looking at the effect of the hazard on
6 mitigating strategies. So, it's a little different and we're trying to draw that distinction here.

7 CHAIRMAN STETKAR: Okay.

8 MEMBER SKILLMAN: I'd like to offer, I think that the suggestion to change
9 demonstrate to confirm is really a reduction in the intent.

10 I think I understand what demonstrate means. It means do it and show it,
11 prove it.

12 And, I can think back years of dealing with word confirm and that immediately
13 raises the question, well, I have confirmation. Here is my Excel spreadsheet and here are my
14 assumptions.

15 And, now, I've got a battle of wits because one crowd's saying an analytical
16 confirmation is plenty good enough and then, the die-hards are saying, to heck with that, do it, prove
17 it, show me.

18 And, I think demonstrate is really the verb that we want here. We want
19 demonstration, by golly, let this thing prove that it's able to do what it's supposed to do.

20 MR. MAUER: That's a point well taken and, you know, frankly, the word
21 confirm may not be the best word there. So, I'll acknowledge that.

22 I think the concern that we had is, sometimes that word demonstrate in
23 regulation space can be challenging from the standpoint of, you know, well, what does it mean to
24 demonstrate?

25 And, you have your understanding of what you think that means and that

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1 word and that term, you know, is not always interpreted the same way. So, we're trying to improve
2 that word. Perhaps this isn't the best word to improve it, but we're trying to find a better way to say
3 this.

4 So, again, we're not, you know, the rule writers and we're trying, you know, but
5 thank you for pointing that out because I didn't really focus on the word demonstrate earlier.

6 But, our intent there was that sometimes, you know, when you look at (b) to
7 include demonstration, you know, those sort of words sometimes are ambiguous in what they mean.
8 So, that was really our intent there.

9 MEMBER SKILLMAN: Thank you.

10 MR. MAUER: So, on spent fuel pool instrumentation, I consider this to be
11 probably the most minor of edits in here.

12 And, that is, if you go back and look at the language in the Order EA-12-051,
13 right at the beginning of the attachment, it talks about an associated spent fuel storage pools.

14 And, that language is important because we wanted to make sure that the
15 scope of what's included in the regulation for where we need the SFPI requirements does not
16 inadvertently bring in, for example, the BWR Mark III containments with the transfer pools in an upper
17 containment as part of this rulemaking. They're not currently, you know, part of this scope for the
18 Order.

19 And, so, we're trying to draw consistency with the language and expectations
20 under the Order and what's here.

21 So, that's the nature of this proposed change. It's the words directly out of the
22 Order and that's how that's been implemented.

23 MEMBER SKILLMAN: So, the red on this slide is out of the Order?

24 MR. MAUER: Correct.

25 MEMBER SKILLMAN: On that's slide eight?

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1 MR. MAUER: Correct.

2 MEMBER SKILLMAN: So, you're suggesting that the wording in the proposed
3 regulation be identical to the Order words?

4 MR. MAUER: Correct.

5 MEMBER SKILLMAN: Okay, thank you. Just a clarification, thank you.

6 MR. MAUER: All right.

7 MEMBER SKILLMAN: Okay.

8 MR. MAUER: Thank you. So, as I mentioned at the beginning, we think there's
9 really been significant progress. I don't think there's a lot of issues that we see in what's left. And,
10 based on what we're all looking at today, obviously, we look forward to getting additional information
11 in the statements of consideration.

12 We had a large number of comments that can't all be addressed in the rule
13 language.

14 I don't have significant misalignment. We just want to avoid unintended
15 consequences later, obviously, to the extent that we can get the rule as good as possible, that's ideal.

16 And, obviously, we're prepared to engage the staff of any suggested -- if there's
17 any need for further discussion on what we're proposing here.

18 CHAIRMAN STETKAR: Great, thank you very much. And, it's encouraging to
19 see that, after this long process, there is a reasonably good alignment. So, that's actually encouraging.

20 Any other comments or questions for NEI?

21 MEMBER REMPE: I have a question. Earlier in our discussion today, we talked
22 about the FLEX equipment and we mentioned that we visited a plant recently and we can recall that
23 there is something done that's more frequently than once every eight years with that equipment.

24 Can, perhaps, Phil, give us an update on -- so we can refresh our memory on
25 what is done with that equipment with respect to checking it out and doing some hookups with some

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1 of it?

2 MR. AMWAY: Yes, and just to make sure I have this properly understood, the
3 concern is, if you only look at this and do it once every eight years, how do you make sure you're
4 operating crew can actually pull it out and under an event and use it?

5 And, what I'll do is I'll give from my experience as being a licensed operator
6 and what we're actually doing with the FLEX equipment.

7 And, some of the things I'm going to talk about are going to be applicable. You
8 know, there's a range of things that we do that may be applicable at one site but not another. But,
9 there are multiple ways they can do it.

10 You know, as part of the equipment maintenance, we walk down this
11 equipment once a week to make sure it's, you know, all there in place, block heaters energized, battery
12 chargers energized, that type of thing.

13 On a less frequent basis, typically, once every six months or annually, you'll do
14 a full and complete inventory of the equipment to make sure that everything you're counting on is
15 actually where it's supposed to be located and that you have all the piece parts you need to implement
16 a successful strategy.

17 Then, there's also maintenance runs of the equipment where you take out the
18 pump or the generator, you start it up typically on the no load condition where, you know, some of
19 these pumps were designed to run dry. So, you may not even hook up the suction source, you just
20 take it out, you run it, make sure it starts, check it out, make sure it's good, shut it down, put it away.

21 The same with the generators, unloaded runs. Then, on a more infrequent
22 basis--

23 MEMBER BLEY: Really? Dry?

24 MR. AMWAY: Yes.

25 MEMBER BLEY: Okay.

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1 MR. AMWAY: Some of the pumps are designed to run dry. B5B pumps are a
2 perfect example. We have dry runs that we do, then we have runs where we actually connect it to a
3 suction source and use it.

4 Then, there's the loaded runs for generators, that's going to be more like on a
5 once every three year basis where you'll hook that generator up to a load bank.

6 Now, it's load bank, not a switch gear in the plant that you're hooking it up to
7 because you probably wouldn't want to really do that.

8 But, the load bank connections are going to have the same types of
9 connections on there, they're going to be TPC, PA 22 series connectors with the same length, or not the
10 same length of cable, but the same AWG size of the cable where you're going to plug that into the
11 generator output into the load bank.

12 So, they'll at least get a chance to pull it out, starting it up, running it, connect it
13 to the load bank and see how it responds under load.

14 Similarly with the pumps where you'll connect that to an suction source, run it
15 through a hose discharge, spray nozzle, whatever to make sure that the pump can meet its pump
16 performance criteria.

17 So, there's -- and, that way, once you get within training, all the FLEX
18 equipment has gone through the SAT process.

19 I typically wouldn't expect that the outcome of SAT would be to say, you need
20 to do evaluated JPMs that you would typically pull out every two years on a recall cycle and expect to
21 have that part of the license again because it's beyond design basis equipment.

22 But, for similar pieces of equipment such as B5B, I'll go back to since that's
23 been around for quite a while, what we'll do is on a biannual basis, we'll bring that pump out. We'll
24 connect it to a suction source, a discharge location and we'll run the operators through a
25 demonstration of how that pump works and operates and would be expected to be used under a B5B

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1 event.

2 That may or may not have happened with the FLEX. I don't know, I haven't
3 been involved in that level of detail, but it's another opportunity where you could improve the
4 operator's proficiency at using that equipment by doing something other than a drill on an eight year
5 frequency.

6 And, typically, that would be done on a once every two year frequency. But, it
7 would be an evaluated JPM that you'd see in the classical requal scenario or re-licensing on an every
8 two year. It would be more of a group demonstration where you take out the equipment, start it up,
9 shut it down and operate it to have that level of proficiency.

10 So, there's more opportunities than just you'd see at once every eight years in a
11 drill and that's the last you ever see it.

12 MEMBER BALLINGER: That's actually almost identically consistent with what
13 we heard in our recent Region visit, even to the extent that the licensee hires a company to do this
14 under pressure stuff and things like that.

15 But, there was, I thought I heard people say that there was plan with -- by the
16 licensee to offload some of that work onto their staff so that their staff is involved in the testing as well.

17 Is that -- do you remember that? I remember when we were -- and, that's what
18 I heard, right? Yes.

19 MEMBER REMPE: Thank you.

20 MR. AMWAY: You're welcome.

21 CHAIRMAN STETKAR: Anything else for Andrew and Phil? If not, thanks a lot,
22 really, really appreciate it.

23 What we'll do now, we have I know Ed Lyman from UCS has requested time to
24 make some comments. So, I'd like to get Ed on the line so that we don't somehow inadvertently skip
25 him because I don't know what his schedule is today.

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1 So, if we can get the line open, first, for Ed and then after he provides his
2 comments, we'll go for the broader public comments.

3 I heard a pop, Ed, are you out there?

4 MR. LYMAN: Yes, can you hear me?

5 CHAIRMAN STETKAR: Yes, we can.

6 MR. LYMAN: Great, thank you. I appreciate the opportunity to speak and I'm
7 sorry I'm not there in person today.

8 I just have a few short remarks. First, I did present to one of your last meetings
9 some of the comments that we had made on the draft rule. And, we are disappointed that very few, if
10 any of those comments seem to have been addressed through changes to the draft.

11 I'd just like to highlight a few of those since some of them came up in your
12 discussion.

13 Well, first, I want to ask at the very beginning of the meeting, what the
14 difference was between the mitigating strategies order and the rule which is supposed to codify that
15 Order, among other things?

16 And, it wasn't mentioned about the mitigating strategy Order had a three
17 phase structure. In our comments, we stressed that we thought that three phase structure really
18 needed to be specified in the rule because it provides a very important granularity to the response.

19 In particular, because a lot of the FLEX plans that we reviewed, the integration
20 between the different phases was, well, was seamless and inconsistent from one site to the other.

21 And, we really think that delineating that is very a important transition
22 between when your installed systems fail, to make sure that the portable systems are in place and
23 ready to go that that really needed to be specified. And, unfortunately, that change has not been
24 incorporated.

25 Another thing that we pointed out, and I appreciate some of the comments on

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1 this already, was that we thought that the eight year periodicity for the drill or exercise, whatever you
2 want to call it, was not sufficient.

3 I just heard the discussion and I think it's some apples and oranges a little
4 between maintaining the equipment and starting the individual pieces can work or the operator may
5 know how to hook it up.

6 And, the integrated assessment, putting all the pieces together that we think
7 this exercise requirement really should represent.

8 And, this is crucial, because, as we all know, Fukushima was so much about the
9 failure of training, the failure to be able to integrate all the complex activities in a sequence and
10 managing personnel in a way to get everything that had to be done to be done.

11 And, that's the kind of thing that we think this exercise really represents is
12 making sure that all those pieces fit together and work. And, that's not only when individuals carry out
13 their tasks, but they can work together.

14 And, so, we suggested a three year periodicity based on a similar type of
15 situation which may enforce on force security exercise which is a performance-based demonstration
16 of compliance. And, we think there are parallels there.

17 So, we still think three years is more appropriate.

18 On the issue of change control, we're very disappointed that the honor code
19 approach in the draft rule is being maintained.

20 We think that there are enough complexities in all the myriad changes that
21 could take place in the FLEX strategies that really does cry out for a threshold where the NRC would
22 review whether the licensee is correct, that it doesn't really matter to make these changes.

23 I'd just like to point out one example not completely analogous, but it's
24 something you might want to look at is that there was a violation found at Sequoyah in the June 2016
25 inspection.

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1 It turns out that their FLEX strategy did not provide for energizing the hydrogen
2 igniters, that the strategy would not have allowed the hydrogen igniters to actually be energized.

3 And, they had previously had a procedure in place where the hydrogen igniters
4 would have been energized. But, when they made the transition to align the FLEX equipment, they
5 reverted to a previous incorrect approach.

6 And, so, for about six months, that site at Sequoyah had a procedure that
7 would not have -- in which the hydrogen igniters would have been inoperable in a station blackout.

8 So, it would have been pretty nice, I think, if they had notified the NRC back
9 then when they made that change and allowed the NRC to actually review it.

10 So, these are the kinds of unintended consequences that can creep in and we
11 think they cry out for greater oversight.

12 On the issue of taking into consideration versus the rule, I think trying to load
13 up this statements of consideration with a lot of these subtleties is not a good substitute for trying to
14 write the rule clearly in the first place.

15 So, I am a little -- especially given the SOCs done at the same legal status as the
16 rule and not too happy with the strategy of keeping the rule as fair as possible and loading of the SOCs
17 with all these subtleties and complexities.

18 One specific example of that is the, let's say -- oh, and one thing, the way the
19 rule's been revised partly to call out the targeted strategies for certain plants, and the comments
20 specifically refers to the requirement to maintain containment functional capability in the fact that
21 some of these targeted strategies may not be able to satisfy that.

22 In our understanding, there are a very few number of plants who would adopt
23 a targeted strategy that would require breaching or opening containment. And, those -- one of those is
24 going to shutdown and another will probably shutdown soon.

25 So, it seems the rule shouldn't -- those should be seen as exceptions rather

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1 than something that you would want to build into the rule itself. I think that you should -- a high level
2 requirement that the containment functional capability to maintain, that should be preserved and that
3 if there is a plant that wants to violate that principle, they should have to seek an exemption rather
4 than having it being allowed as a kind of normal course of action.

5 Because, we think those are extreme examples and they should be very limited
6 in their scope.

7 The last thing I want to say is that, I feel like whenever I hear the staff of ACRS
8 or anyone else talking about how these are low probability events, you know, beyond design basis
9 events that are not expected, that are low probability and, as a result, you don't have to treat them as
10 seriously as other events, that that really does miss the whole point of everything that's been going on
11 for the last five plus years.

12 And, that point was that the historical distinction between design basis and
13 beyond design basis was arbitrary. And, what is considered beyond design basis may not be low
14 probability. And, therefore, you can't use that argument anymore.

15 So, if I hear Mr. Reed saying that having more than one reactor at a plant site
16 involved in a severe accident that that's a super low probability event, that blows my mind.

17 Because, that's what Fukushima was supposed to be teaching us, that you can
18 have a common cause failure and the probability of multiple sites may not be significantly smaller
19 than the single sites.

20 So, I can't even imagine why those arguments are still being made.

21 And, I will stop there, thank you.

22 CHAIRMAN STETKAR: Ed, thank you very, very much. We very, very much
23 appreciate your comments and it's obvious that you and other members of your organization, if it isn't
24 just you, has spent a lot of time going through this. So, thanks again.

25 MR. LYMAN: Yes, and Dave Lochbaum, of course, is involved.

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1 CHAIRMAN STETKAR: Okay, yes. I didn't know how much Dave had been
2 involved, but, thanks to him, too.

3 And we have you on a transcript, but I've been scribbling notes, so we will
4 certainly consider your comments very seriously.

5 Now, since we have the line open -- that's not -- I didn't know Ed had separate
6 line. So, what we'll do is, Ed, we're going to close your line because your line is popping and crackling.
7 You can listen in and hear the other comments. Thanks again.

8 While we're getting the other public line open, what I'll do is ask if there's
9 anyone in the room here who would like to make any comments? And, if there is, please come up to
10 the microphone and do so.

11 And, we'll get the other public line open.

12 Okay, I've been told we're good to go and the other line is open. If there's
13 someone from the public out there, just please do me a favor and just say hello so we can confirm it's
14 open.

15 PARTICIPANT: Hello?

16 CHAIRMAN STETKAR: Thank you.

17 It sounds silly, but we have to do that.

18 Now, if there's a member of the public on the line who would like to make a
19 comment, please identify yourself and do so.

20 Hearing nothing, just for our benefit, we'll reclose the line so that it -- we get all
21 kinds of noise, pops and crackles in here, so we'll put the line on mute on our end. You can still hear
22 out there.

23 And, as we always do in a Subcommittee meeting, I'll go around the table and
24 see if any of the members have any final comments that they'd like to make.

25 I forgot who I -- who'd I start with this morning? I started with Joy, so I'll start

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1 with Ron this afternoon.

2 Ron?

3 MEMBER BALLINGER: I have no further comments.

4 CHAIRMAN STETKAR: Just make sure you turn your mic on so we know you
5 don't want to say anything.

6 MEMBER BALLINGER: No, I have no further comments.

7 Margaret?

8 MEMBER CHU: No comments.

9 CHAIRMAN STETKAR: Thank you.

10 Harold?

11 MEMBER RAY: Nothing further, thank you.

12 CHAIRMAN STETKAR: Dick?

13 MEMBER SKILLMAN: Nothing further, thank you.

14 CHAIRMAN STETKAR: Dana?

15 MEMBER POWERS: Well, I think I would echo a couple of comments. One is,
16 we need to make sure we are not complicating any kind of rule by a few plants that may require
17 exemptions. Exemption process exists and we don't need to -- one of the problems with this, all these
18 rules, is they get very, very complicated very quickly if you try to accommodate each particular
19 situation.

20 And, the second one is, we need to understand well the issue of containment
21 functionality in this kind of environment. I think that's a point that you, John, have made up -- had
22 brought up and I think it's one that needs more attention perhaps than we've given it at this
23 Subcommittee meeting.

24 CHAIRMAN STETKAR: That's it? Thank you.

25 Mike?

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1 MEMBER CORRADINI: No further comments.

2 CHAIRMAN STETKAR: Dennis?

3 MEMBER BLEY: Nothing more for me.

4 CHAIRMAN STETKAR: Pete?

5 MEMBER RICCARDELLA: No comments, but just a question as to what are the
6 plans for bringing this to the main Committee and there'll be a record at some point before this gets
7 issued?

8 CHAIRMAN STETKAR: There will. The current plans are, and I was kind of
9 waiting to see whether anything seemed to arise and I haven't heard anything to bring it to the
10 Committee in September.

11 The current plans are that the staff will come back to us, we have a meeting
12 schedule in the October Subcommittee meeting week, the Subcommittee meeting, to hear what ought
13 to be then essentially the final rule language, depending on offline communications regarding the stuff
14 we're talking about with statements of consideration.

15 I don't know whether we'll have one before that. But, currently, the plan is to
16 have a Subcommittee meeting the week of October, whatever it is, 18th or so.

17 And, then, write a letter at the full Committee meeting in November on what
18 would be the final rule language. So that's --

19 MEMBER RICCARDELLA: Prior to --

20 CHAIRMAN STETKAR: As far as this part of our activity.

21 MEMBER RICCARDELLA: Prior to the deadline for issue?

22 CHAIRMAN STETKAR: Prior to -- well, yes.

23 MEMBER RICCARDELLA: There's a deadline, right?

24 CHAIRMAN STETKAR: Yes, not long before the deadline, but before the
25 deadline. So, the Commission would have our letter in a timely manner to look at the final rule

NEAL R. GROSS

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WASHINGTON, D.C. 20005-3701

1 language.

2 Jose?

3 MEMBER MARCH-LEUBA: I have no comments.

4 CHAIRMAN STETKAR: Thank you.

5 Walt?

6 MEMBER KIRCHNER: No further comments.

7 CHAIRMAN STETKAR: Charlie?

8 MEMBER BROWN: Nothing more.

9 CHAIRMAN STETKAR: Joy?

10 MEMBER REMPE: No comments, but I appreciated everyone's presentations.

11 CHAIRMAN STETKAR: Good, thank you.

12 And, again, I also, I'd like to echo I think this afternoon's presentations were
13 very good, well organized, clear, crisp and really appreciate everyone's input, the staff and NEI and Ed
14 Lyman.

15 And, with that, we are adjourned.

16 (Whereupon, the above-entitled matter went off the record at 4:24 p.m.)

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Draft Guidance Document

Regulatory Decisionmaking for Reevaluated Flooding and Seismic Hazards for Operating Nuclear Power Plants

ACRS Fukushima Subcommittee

August 17, 2016



Purpose

- Discuss draft guidance for regulatory decisionmaking (Phase 2) related to 50.54(f) letters on reevaluated flooding and seismic hazards
- Obtain insights and define path forward to support issuance in September 2016



NRC Regulatory Response Summary of Tier 1 Actions



New Requirements

- **Order EA-12-049**
 - **Mitigating Strategies for Beyond-Design Basis External Events**
 - **Related Proposed Rulemaking, Mitigation of Beyond-Design-Basis Events (MBDBE)**
- Orders EA-12-050; EA-13-109
 - Mark I/II Containment Vents
- Order EA-12-051
 - Spent Fuel Pool Level Instrumentation



Requests for Information

- Flooding and seismic walkdowns
- **Reevaluation of flooding and seismic hazards**
- Emergency preparedness staffing and communications

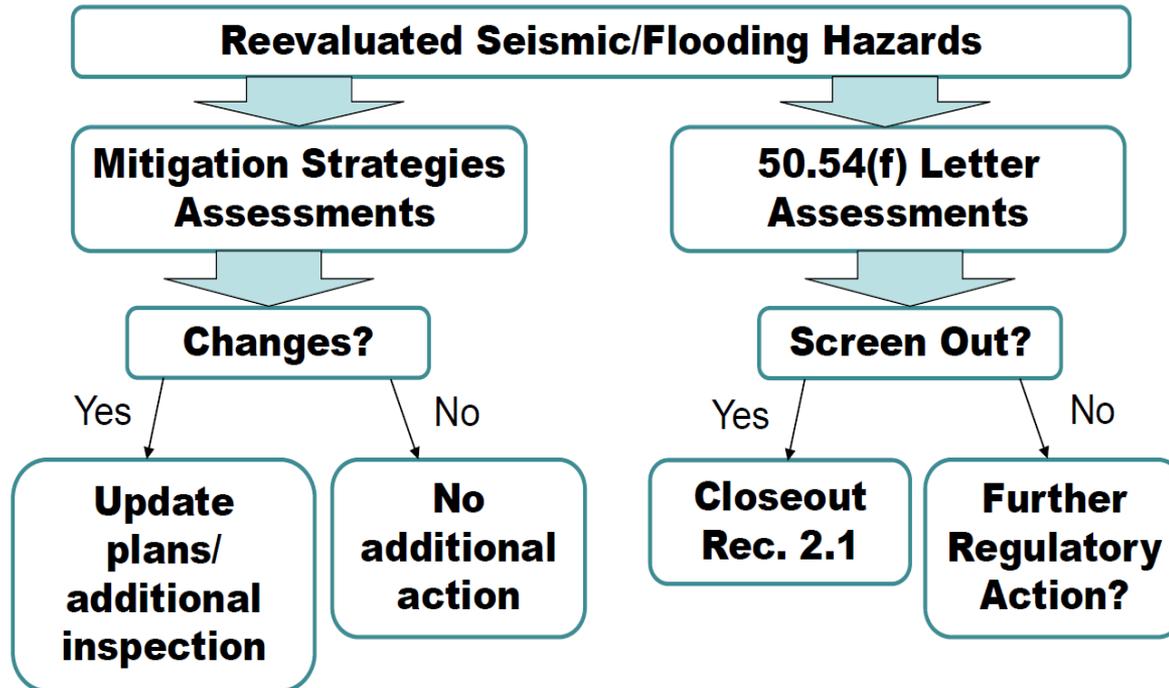


Background

- COMSECY-14-0037
- COMSECY-15-0019
 - 1) Ensure mitigating strategies are able to address reevaluated flooding hazards, and
 - 2) Complete the flooding hazard reevaluations and close the flooding portion of the 50.54(f) letter, including:
 - a. Developing a graded approach to identify the need for, and prioritization and scope of, plant-specific integrated assessments, and
 - b. Developing criteria and guidance to support decisionmaking related to plant-specific regulatory actions.



Closure of Seismic and Flooding Hazard Reviews



Mitigating Strategies

- Revision 2 to NEI 12-06 Addressing Reevaluated External Hazards:
 - Appendix G – Flooding
 - Appendix H – Seismic
 - JLD-ISG-2012-01, Revision 1
- Status
 - Work continues on guidance for seismic Path 5
 - Some flooding and seismic mitigating strategy assessments (MSAs) submitted and reviews in progress



Flooding Integrated Assessments

- NEI 16-05 (JLD-ISG-2016-01)
 - Paths 1-3: Focused Evaluations
 - Path 4: Effective Mitigation
 - Path 5: Scenario Based
- ➔ Integrated Assessments
- Integrated Assessments
 - Maintain or restore key safety functions
 - Evaluation of site response (manual actions)
 - Frequency estimations
 - Scenario-based approach



Seismic Risk Assessments

- Seismic Evaluation Guidance (SPID) and JLD-ISG-2012-04
- Limited Scope Evaluations
 - High Frequency
 - Spent Fuel Pools
 - IPEEE Screening Evaluations
- SPRA final determinations
 - (Letter dated Oct. 27, 2015)
- Seismic PRAs
 - Elements: reevaluated hazard, fragility, plant response
 - Review: Verify completeness and suitability; assess SCDF/SLERF and importance measures; and screen potential safety improvements



Phase 2 Decisions

- Determine whether:
 - (1) licensee's response to the 50.54(f) letter has demonstrated no further regulatory actions are necessary
 - or
 - (2) Consideration of additional regulatory actions under the NRC's backfit regulation is warranted



Approach

- Use existing processes and guidance
- Risk-informed, performance-based decisionmaking
- Two phase screening process
 - Senior management panel
 - Close plant-specific 50.54(f) activity
 - Formally enter backfit procedure
 - Management approval, backfit analysis



Senior Management Panel Considerations

- Compliance with existing requirements
- Consistency with the defense-in-depth philosophy
- Maintenance of adequate safety margins
- Demonstration of acceptable levels of risk
- Implementation of defined performance measurement strategies



Panel Decision Process

- Consideration of quantitative and qualitative factors (per guidance)
- Consideration of uncertainties
- Other factors
 - Available warning time
 - Licensee actions
 - Protective actions
 - Event frequency
- Closeout letter or further evaluation



Potential Further Evaluations

- Established process for plant-specific backfits
- Management Directive 8.4
- NRR Office Instruction LIC-202



Backfitting - Background

The purpose of a backfit analysis is to determine formally:

- 1) if a substantial increase in the overall protection of the public health and safety or the common defense and security is to be derived from implementing the backfit,
and
- 2) if the direct and indirect costs of implementing the backfit for that facility are justified in view of the increased protection



Backfitting - Background

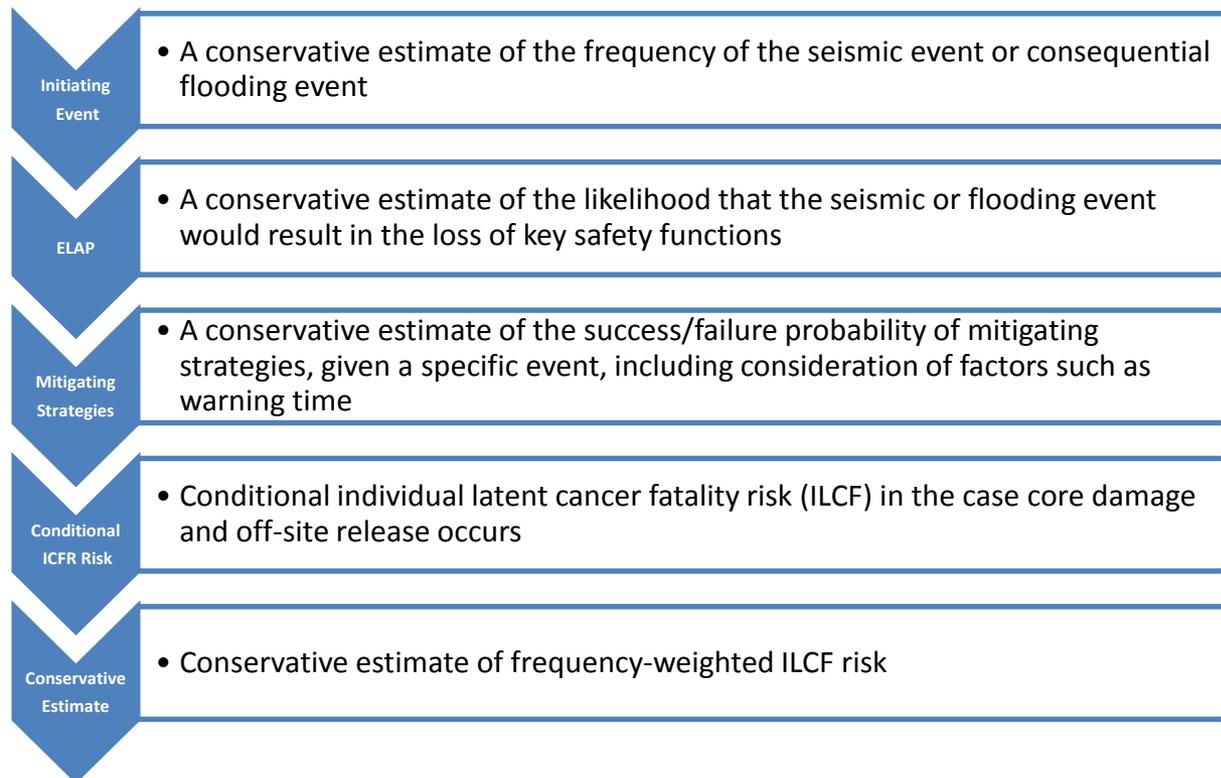
- Core damage frequency as subsidiary goal

| Estimated reduction in CDF | Staff Action |
|---|---|
| > 10^{-4} /reactor year | Proceed with the regulatory analysis on a high-priority basis. |
| Between 10^{-4} and 10^{-5} /reactor year | The decision whether to proceed with the regulatory analysis is to be made by the responsible division director. |
| < 10^{-5} /reactor year | Terminate further analysis unless the office director decides otherwise based upon strong engineering or qualitative justification. |



Backfitting – Reevaluated Hazards

- High Level Conservative Estimates



Backfit Analysis Process

- Proceed with backfit analysis, including documenting substantial safety improvement and comparing costs and benefits of possible action
- Gain approval of senior managers and engage licensee
- Close issue if at any time the analysis shows that a backfit is not justified



Recent/Pending Guidance Applicable to Backfit Process

- Economic Consequences (SECY-12-0110)
- Qualitative Factors (SECY-14-0087)
- Updating NUREG/BR-0058 (RA guidelines), NUREG/BR-0184 (RA technical handbook), and NUREG-1409 (Backfitting)
- Dollars per person-rem (NUREG-1530)
- ACRS Briefings Expected in Fall 2016



Next Steps

- Continue MSA reviews
- Continue flooding focused evaluation reviews
- Complete seismic Path 5 guidance
- Issue Phase 2 guidance (September 2016)
- Plant-specific reviews supporting Phase 2 decisionmaking
 - Flooding integrated assessments (end of 2018)
 - Seismic PRAs (staggered submittals beginning in 2017)



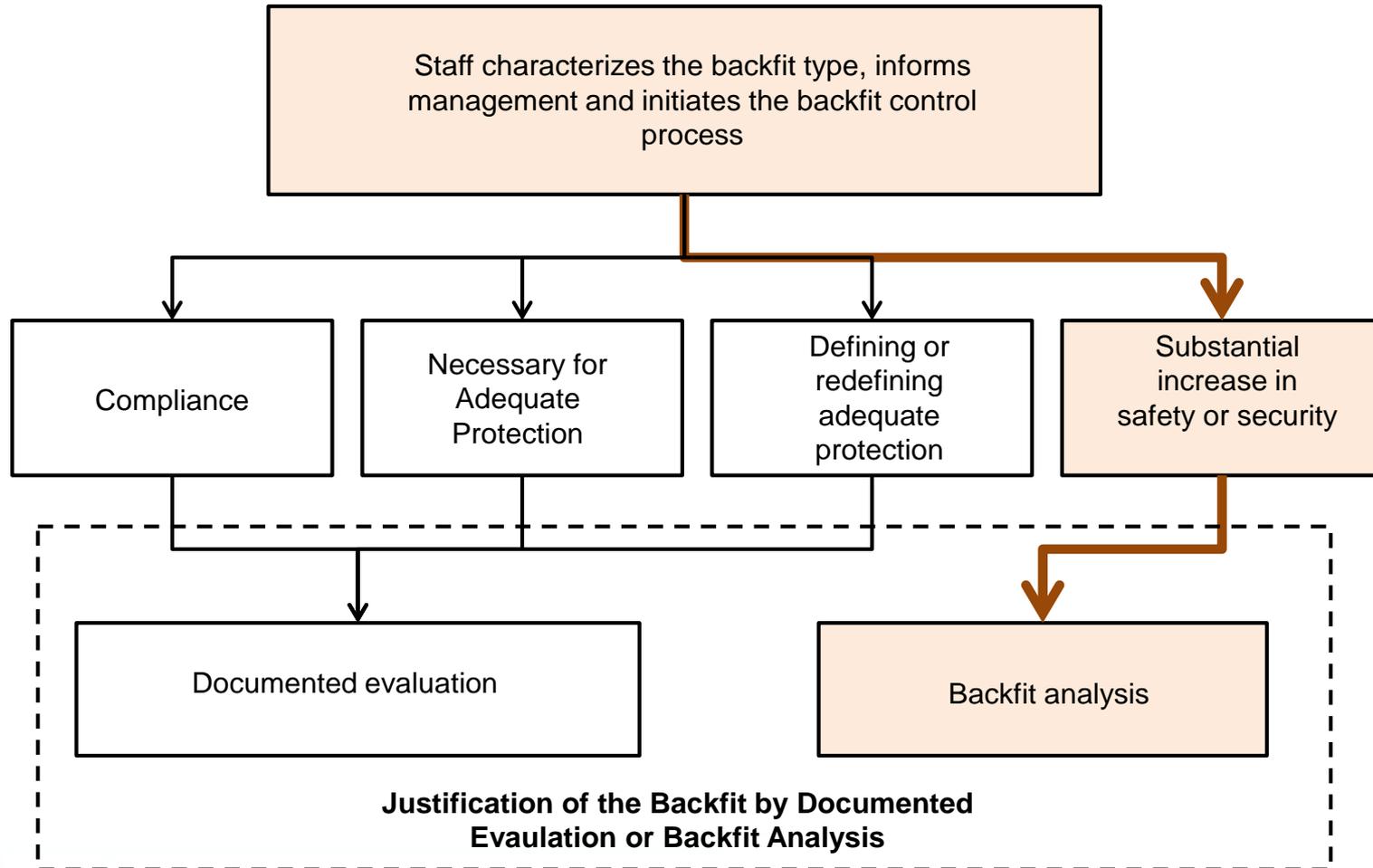
Questions & Discussion



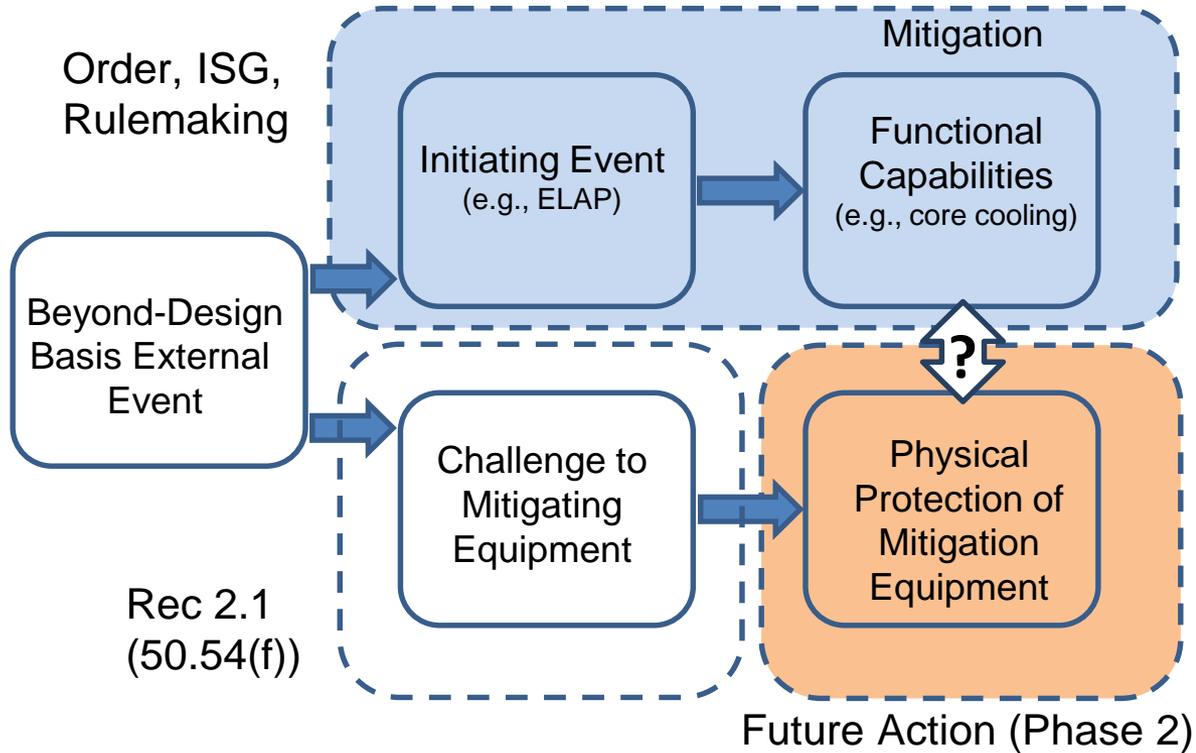
Backup Slides



Backfitting - Background



Issue (as represented in mid-2013)



NEI 12-06 App G (Flooding)

NEI 12-06 (Rev 2)
December 2015

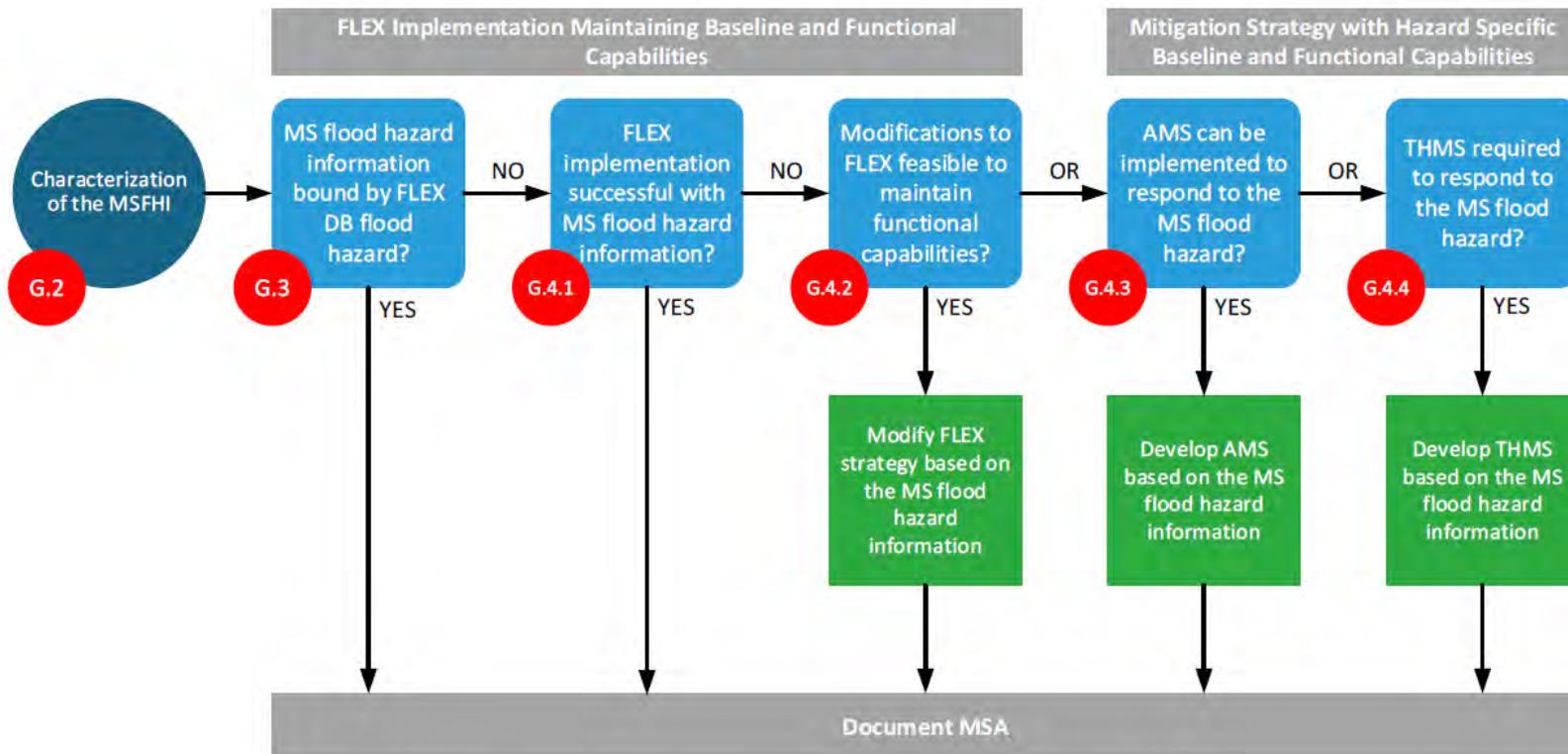


Figure 1 –Mitigating Strategies Assessment Flow Chart

NEI 12-06 Appendix H (Seismic)

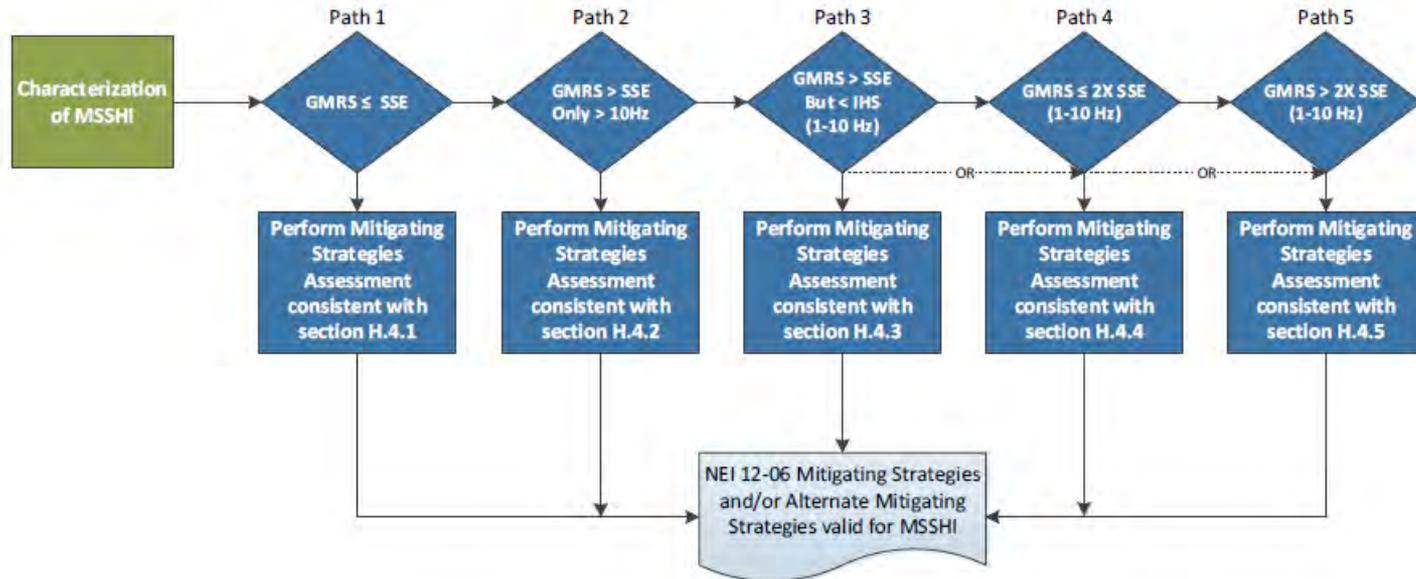


Figure H.2: Mitigating Strategies Assessment Process for the MSSHI



NEI 16-05 (Flooding)

NEI 16-05, Revision 1
June 2016

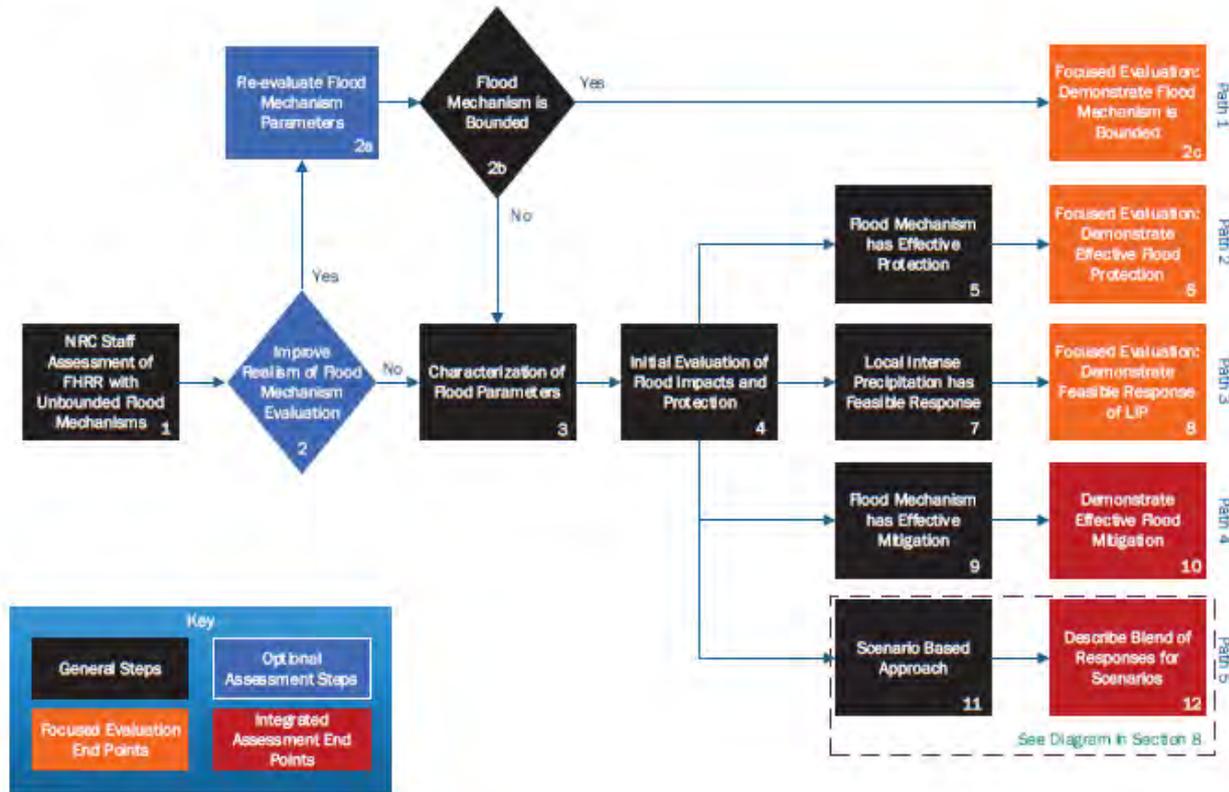


Figure 5-1: Flooding Impact Assessment Process Flowchart



NEI 16-05 (Flooding)

| Table 5-1: Flooding Impact Assessment Path Elements | | | |
|--|---|--|--------------------------|
| Path | Required level of Evaluation | Elements to be Evaluated | Relevant Guidance |
| Path 1 (Section 7.1) | Flood Hazard Evaluation | Flood Mechanism Parameters | NEI 16-05 Appendix A |
| Path 2 (Section 7.2) | Effective Flood Protection | Available Physical Margin | NEI 16-05 Appendix B |
| | | Reliability of Protection Features | NEI 16-05 Appendix B |
| | | Overall Site Response | NEI 16-05 Appendix C |
| Path 3 (Section 7.3) | Feasible Flood Response for LIP (Protection and/or Mitigation) | Reliability of Protection Features and Mitigation Equipment | NEI 12-06 |
| | | Feasibility of Manual Actions | |
| Path 4 (Section 8.1) | Effective Flood Mitigation | Reliability of Mitigation Equipment | NEI 16-05 Appendix B |
| | | Overall Site Response | NEI 16-05 Appendix C |
| Path 5 (Section 8.2) | Scenario Based Approach (Blend of Responses) | Various | Various |



NEI 16-05; Path 5 (Flooding)

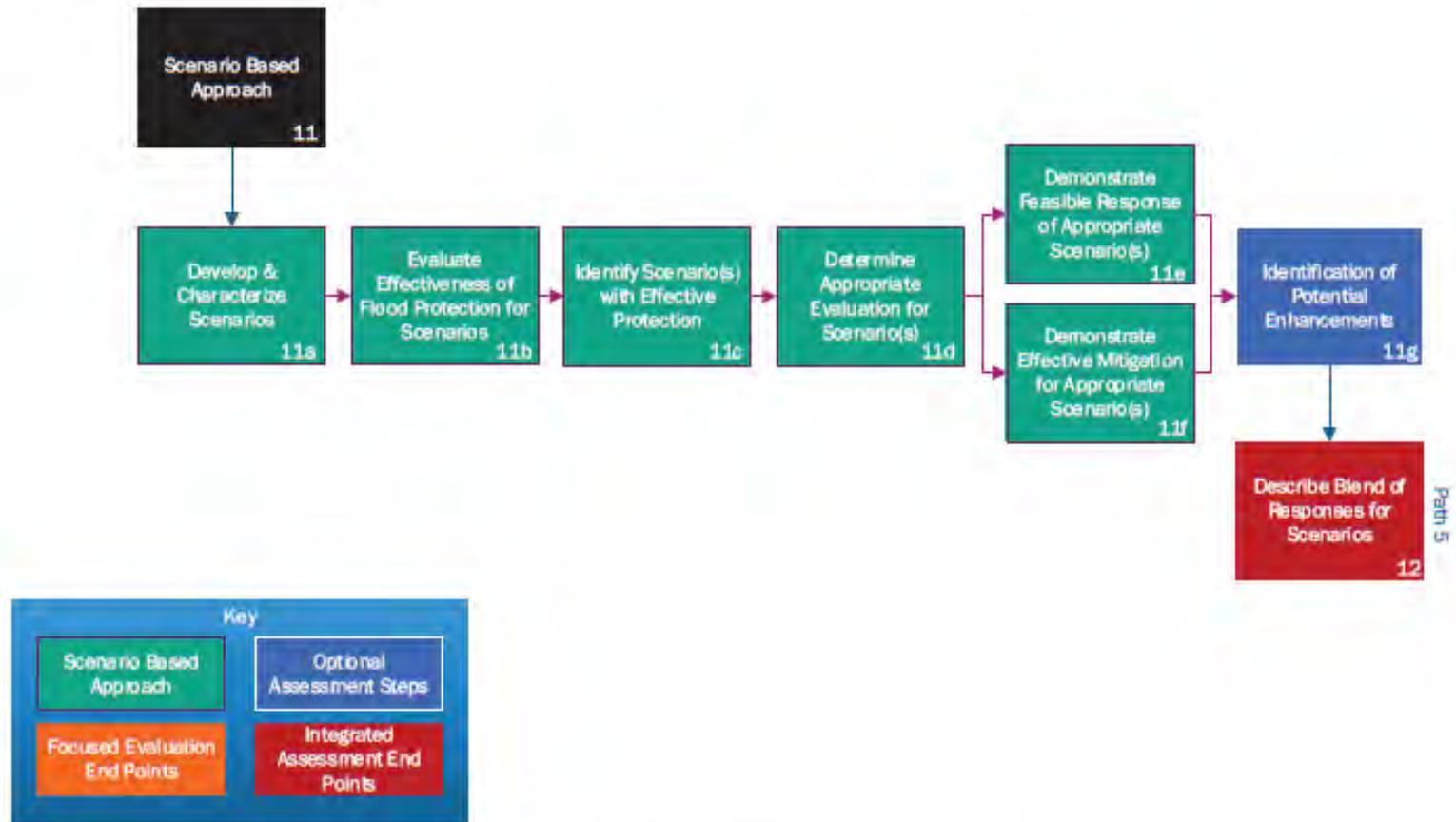


Figure 8-1: Path 5 Scenario Based Approach Flowchart



Mitigation of Beyond-Design-Basis Events (MBDBE) Rulemaking

Advisory Committee on Reactor Safeguards
Fukushima Subcommittee

August 17, 2016

Purpose

- To discuss and obtain feedback from the ACRS Fukushima Subcommittee on the staff's path forward for addressing the substantive public comments

Background

- Issued proposed MBDBE rule on November 13, 2015, for a 90-day comment period (80 FR 70609)
- Comment period closed on February 11, 2016
- 20 Comment submissions
- NRC staff has reviewed the public comments

Review of Comments

- Many good comments were submitted that enable NRC staff to clarify and improve the final MBDBE rule
 - Improves alignment of the final MBDBE rule with ongoing order implementation and supporting guidance
 - Clarifies the meaning and intent of the MBDBE rule
- More Substantive Issues for Discussion Today:
 - Improvements for addressing reevaluated hazards information
 - Improvements for addressing reasonable protection
 - Clarification to support the “loss of all ac” requirement
 - Removal of multiple source term dose assessment requirements
 - Relocation of staffing and communications requirements
 - Revisions to the spent fuel pool instrumentation requirements
 - Flexible schedule approach to address reevaluated hazards
 - Clarification to support change control requirement

Reevaluated Hazards

- Commenters suggested that the MBDBE rule treatment of reevaluated hazards could be improved by addressing in 50.155(b) rather than exclusively in 50.155(c)
- Staff agrees with comments
 - Now addressed by draft 50.155(b)(2)
- Provides greater flexibility to address information
- Includes risk-informed approaches for addressing hazard information
- Better aligns with current guidance

Reasonable Protection

- Commenters suggested that reasonable protection can be improved in final rule
- Staff agrees with comments
- Draft final MBDBE rule will clarify reasonable protection and align it with 50.155(b)(1) and (2)
 - Reasonable protection is carried forward from Order EA-12-049 understood through implementation of the order
 - Final rule aligns 50.155(c)(2) with 50.155(b)(1), reasonable protection considering external design-basis magnitudes
 - Adds 50.155(c)(3) and aligns to new 50.155(b)(2) for licensees with reevaluated hazard magnitudes for flooding and seismic that exceed external design basis

Loss of All AC Power

- Comments on “both sides” of this issue indicating a lack of clarity concerning this proposed provision
- Order EA-12-049 imposed requirements to address the loss of all ac power and the proposed MBDBE rule contained the same language
- This provision is met by two different elements of the MBDBE regulatory structure:
 - Strategies and guidelines developed assuming an extended loss of ac power (ELAP) and loss of normal access to the ultimate heat sink (LUHS)
 - Contingency measures to send an operator to locally and manually operate the AFW/HPCI/RCIC/IC pump without control power (to include means for obtaining necessary instrument readings to support the strategy) should conditions exceed ELAP
- The final MBDBE SOC will be clarified regarding the meaning and intent of “loss of all AC power”

Multiple Source Term Dose Assessment Backfit

- Commenters indicated that the NRC did not properly justify the proposed multiple source term dose assessment imposition as adequate protection exception backfit
 - Note: Multiple source term dose assessment has been voluntarily implemented by industry (implemented in 2014)
- Staff agrees with comments
- Staff re-examined justification
 - It does not appear that applicable portions of 50.109 (either adequate protection or substantial additional protection provision) can be satisfied
- Draft final MBDBE rule will remove the multiple source term dose assessment as a requirement; however, this capability remains as a voluntary initiative

Relocation of Staffing and Communications Requirements

- Commenters suggested that MBDBE rule can be improved and clarified
 - Confusion occurred due to the proposed location
 - Appendix E is “design-basis” Emergency Preparedness (EP), whereas the new requirements are for beyond-design-basis capabilities (i.e., multi-unit events)
- Staff agrees with comments and further notes that as proposed, the staffing and communication analyses were ephemeral requirements
- Staffing was already in proposed 50.155(b)(5) for the draft final MBDBE rule:
 - Communications capability would be a requirement under 50.155(c)(4)

Revision to Spent Fuel Pool Instrumentation (SFPI) Requirements

- Commenters suggested that the proposed rule linked the SFPI Order requirements (EA-12-051) with mitigation strategies in 50.155(b)(1)
- Staff agrees with the comments that this is not the requirement:
 - SFPI requirements are separate from the EA-12-049 requirements
 - Imposed for reprioritization of resources following a beyond-design-basis external event
 - Licensees can voluntarily use the SFPI to support the mitigation strategies, in which case, the mitigation strategies requirements apply to the SFPI
- The draft final MBDBE rule will be revised to decouple the SFPI requirements from the remaining portions of the rule
 - SFPI requirements will be moved to a separate paragraph: 50.155(f)

Flexible Implementation Schedule

- Commenters indicated that the proposed 2-year implementation schedule is not achievable
 - A proposal for a flexible implementation schedule was provided by comment
- The staff is aware of implementation status and agrees that a flexible schedule is a sound approach
- The MBDBE rule would provide a flexible schedule approach focused on 50.155(b)(2) to address reevaluated hazards
- The MBDBE rule would require that following the effective date of the rule, licensees would provide a schedule

Change Control

- Commenters suggested that the final MBDBE rule contain a “prior review and approval type of criterion”
- Comments suggested that the final MBDBE rule contain reporting criteria for when the licensee makes changes
- Staff concludes that the proposed approach (demonstrate compliance with the 50.155 provisions and maintain documentation to enable staff inspection) is more efficient
 - The issue centers on the potential for licensee changes that fall outside of endorsed guidance and approved alternatives
- Staff will enhance the supporting SOC to clarify what would clearly not constitute “demonstrated compliance”

Additional MBDBE Rule Changes

- The staff plans to clarify paragraph (a)
 - Changes to improve clarity of decommissioning provisions
- Changes to paragraph (c):
 - Removal of the proposed 50.155(c)(3) maintenance requirement (FRN question requested feedback)
 - The proposed maintenance requirement is redundant with “develop, implement and maintain” of 50.155(b)
 - Removal more closely aligns the rule with EA-12-049
- Basis: Maintenance of equipment such that it can perform its intended functions for 50.155(b) is part of maintaining the integrated response capability required by 50.155(b)

Industry Comments: MBDBE Rulemaking

August 17, 2016

Andrew Mauer

Sr. Project Manager, NEI



NUCLEAR ENERGY INSTITUTE

nuclear. clean air energy.

Overview

- Presented comments during April 22nd ACRS meeting
- NEI is in agreement with the Staff's approach and suggests some key clarifications to ensure consistency with existing requirements and/or endorsed guidance, as reflected in this presentation

Implementation Time

- Implementation schedule should be determined by licensee and NRC since site status varies considerably
 - Seismic and flooding hazard status need to be considered (50.155(b)(2)(i))
 - Both seismic and flooding evaluations must be completed before modifications are implemented
 - The licensee should propose a schedule by letter, not extension request
 - NRC's approval time period should be reduced
 - Requests to modify the implementation time should be associated with the whole rule, not just the reevaluated hazard
 - Implementation schedule should be prioritized and integrated with other safety significant licensee activities in accordance with cumulative effects

Implementation Time

- Suggested wording for implementation time under 50.155
 - *For licensees that need additional time to achieve compliance-with **the provisions of this section**-paragraph (b)(2) to address a reevaluated seismic hazard, the NRC will consider an alternative compliance date if the licensee submits to the Director, Office of Nuclear Reactor Regulation, under 10 CFR 50.4, no later than [INSERT DATE 90 DAYS AFTER THE EFFECTIVE DATE OF THE FINAL RULE], ~~an extension request~~ **a proposed schedule for compliance** that provides good cause for exceeding the 2-year compliance date. Factors that may be considered as supporting a finding of good cause include: supporting justification that the ~~schedule extension~~ does not introduce a significant safety concern; **and** limited key resources, ~~models, and guidance for considering the effects of seismic reevaluated hazards~~; additional time to make revisions to existing guidance, strategies, and procedures ~~to address the effects of the reevaluated hazards~~; and additional time to support implementation of modifications to the facility to address the effects that can include additional time for engineering, procurement, and the need to install the modifications during refueling outages. The **proposed schedule for compliance date extension request** will be regarded as approved by the Commission ~~120~~**90** days after submission to the Commission.*

Documentation of Changes

- Language in 50.155(g) should be more clearly worded and additional guidance is needed with respect to maintenance of documentation of changes
 - *(g) Documentation of Changes (1) A licensee may make changes in the implementation of the requirements in this section, without NRC approval, provided that before implementing each such change, the licensee demonstrates that the provisions of this section, continue to be met and maintains documentation of ~~all~~ changes until the requirements of this section no longer apply.*
 - Additional guidance on what change documentation needs to be retained is needed (e.g., only changes in compliance methods, not changes that maintain fit, form, and function) as some changes may not adversely impact approved strategies.

Reevaluated Hazard

- Original concerns with 50.155(b) related to use of alternate mitigating strategies and allowing for use of risk insights
 - Draft language could be interpreted to apply the MSA to the entire plant instead of just mitigating strategies
 - Language in (A) and (B) should be aligned

Reevaluated Hazard

- Suggested change to wording in 50.155(b)(2)(ii):
 - (A) ~~Demonstrate~~ **Confirm** that the mitigation strategies and guidelines required by paragraph (b)(1) of this section, as implemented or as modified, are capable of mitigating the effects of the reevaluated hazard **information on mitigation strategies**
 - (B) Develop event-specific approaches that address the **effects of the** reevaluated hazard **information on mitigation strategies** ~~to include demonstration that the effects of the reevaluated hazards can be mitigated through the use of available equipment and SSCs in the facility~~
- Also important to clarify in SOC

Spent Fuel Pool Instrumentation (SFPI)

- Original concern was that SFPI requirements should be separate from mitigating strategies
 - Draft language is ambiguous for sites with transfer or temporary storage pools, and is not consistent with Order EA-12-051
 - Suggested change to wording in 50.155(f) – maintains consistency with terminology in the Order
 - *In order to support effective prioritization of event mitigation and recovery actions, each licensee shall provide reliable means to remotely monitor wide-range water level for each spent fuel pool in associated spent fuel storage pools at its site until five years have elapsed since all of the fuel within associated ~~that~~ spent fuel storage pools was last used in a reactor vessel for power generation.*

Conclusions

- No known significant misalignment
- Key clarifications are appropriate to avoid unintended consequences
- Industry would like to engage the Staff if suggested changes need clarification