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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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618TH MEETING

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

+ + + + +

FRIDAY

OCTOBER 3, 2014

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ROCKVILLE, MARYLAND

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The Advisory Committee met at the
Nuclear Regulatory Commission, Two White Flint
North, Room T2B1, 11545 Rockville Pike, at 8:30
a.m., John W. Stetkar, Chairman, presiding.

COMMITTEE MEMBERS:

- JOHN W. STETKAR, Chairman
- HAROLD B. RAY, Vice Chairman
- DENNIS C. BLEY, Member-at-Large
- RONALD G. BALLINGER, Member
- SANJOY BANERJEE, Member
- CHARLES H. BROWN, JR. Member
- MICHAEL L. CORRADINI, Member
- DANA A. POWERS, Member

1 JOY L. REMPE, Member
2 PETER C. RICCARDELLA, Member
3 MICHAEL T. RYAN, Member
4 STEPHEN P. SCHULTZ, Member
5 GORDON R. SKILLMAN, Member

6

7 DESIGNATED FEDERAL OFFICIAL:

8 KATHY WEAVER

9

10 ALSO PRESENT:

11 ANDY CAMPBELL, NRO

12 JOHN D. MONNINGER, NRO

13 WILLIAM RECKLEY, NRR

14

15 *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 now come to order. This is the second day of the 618th meeting of the Advisory Committee on Reactor Safeguards. During today's meeting, the committee will consider the following: clarification of the process for addressing reevaluated flooding hazards identified from Japan lessons learned activities for operating nuclear power plants. There will be clues on the name for that one. Meeting with NRC Chairman, Allison Macfarlane. Future ACRS activities and reports of the Planning and Procedures Subcommittee. Reconciliation of ACRS comments and recommendations. Assessment of the quality of selected NRC research programs for the Fiscal year 2014 and preparation of ACRS reports.

This meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Ms. Kathy Weaver is the Designated Federal Official for the initial portion of the meeting. We have received no written comments or requests to make oral statements from members of the public regarding today's sessions. There will be a phone bridge line. To preclude

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1 interruption of the meeting, the phone will be
2 placed in a listen-in mode during the presentations
3 and committee discussions. And I would ask everyone
4 in the room to make sure your little BP devices are
5 turned off and silenced.

6 A transcript of portions of the meeting
7 is being kept and it is requested that speakers use
8 one of the microphones, identify themselves, and
9 speak with sufficient clarity and volume so that
10 they can be readily heard. And with that, if
11 there's no other further comments, we'll turn to the
12 first item on our agenda. And Dr. Stephen Schultz
13 will lead us through that. Steve.

14 MEMBER SCHULTZ: Thank you, Chairman
15 Stetkar. I wanted to -- you've given the name and
16 the title for this session and it's a mouthful. So
17 I wanted to simplify.

18 First, I wanted to welcome Bill Reckley
19 to the meeting this morning. He's going to be the
20 presenter of this topic. Bill came to me about a
21 month ago under the auspices of the Fukushima
22 Subcommittee and we talked about a couple of things.
23 The first item was just by information that we all
24 know. Under the Fukushima activities, there's a
25 number of programs that are ongoing, both in terms

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1 of the regulatory action, industry action, and so
2 forth. And one of the things that the staff is
3 working on is coordination of those items from a
4 regulatory perspective. And here, we have the
5 Mitigating Strategies Program moving forward, both
6 in terms of the overall rulemaking activities, as
7 well as industry activities. And we have flooding
8 reevaluations that are ongoing, not only in the
9 flooding area, but seismic areas and so forth. They
10 are activities that are already in process.

11 And what Bill came to discuss was the
12 coordination of things moving forward. And all of
13 that is not fully in place in terms of an overall
14 regulatory approach and the staff is working
15 to identify the appropriate processes that should be
16 in place in order to establish what would happen as
17 these reevaluations are being done. What should
18 happen in terms of regulatory changes, plant
19 modifications, and so forth associated with those.
20 So I'm going to let Bill tell the story.

21 A month ago, the staff was working on a
22 white paper associated with this. Came to the
23 committee in our planning sessions and talked about
24 that we would receive a paper. The staff is still
25 working on that paper. And the white paper is

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1 intended to be a COMSECY to the Commissioners. But
2 it's still being discussed. And Bill is going to
3 talk about its status.

4 So we determined that the best thing to
5 do rather than hold a subcommittee meeting on this
6 was to have this session with the full committee, a
7 brief session, for Bill to let us know what the
8 proposal is all about and what the status of it is.
9 So with that, I'll turn it over to Bill for your
10 presentation this morning.

11 MR. RECKLEY: Thank you, Dr. Schultz. I
12 guess it's not that unusual for us to be late in
13 providing a paper. But as Dr. Schultz mentioned,
14 this paper will be going up to the Commission and
15 the reason that we talked was they didn't want a
16 surprise for you guys to read this paper and then
17 kind of have it come out of the blue. So we're here
18 today to talk about the paper.

19 Things have changed. We will probably
20 now not issue a white paper for public comment. It
21 will go directly from the staff to the Commission
22 and then you guys, the committee, would see it at
23 that time. So I'll give you a little briefing today
24 of what the intent of the paper is, what it's going
25 to lay out, and then --

1 CHAIRMAN STETKAR: Is there some reason
2 we won't see it before it goes to the committee?

3 MEMBER SCHULTZ: Commission.

4 MR. RECKLEY: Well, maybe we can talk
5 about that at the end once you hear the subject
6 matter and we can revisit. Right now the plan would
7 be that it would go directly to the Commission.

8 MEMBER SCHULTZ: Thanks.

9 MR. RECKLEY: So in the discussions we
10 had in public meetings and internally, I have found
11 it useful to just back up and start at the
12 beginning.

13 What is it that we're trying to
14 accomplish and what is the issue? And as Fukushima
15 pointed out, there are external events that can
16 occur causing a plant upset and then traditionally
17 we would have said well, we have plenty of safety
18 systems to deal with plant upsets. But the dilemma
19 is when the external event that caused the upset
20 also challenges those safety systems. And
21 obviously, Fukushima is the example of that with the
22 loss of electrical power and other safety systems
23 caused by the tsunami.

24 So what we set out in the orders and in
25 the requests for information to evaluate external

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1 hazards, was what can be done or what should be done
2 for U.S. power plants in terms of being able to
3 mitigate beyond design basis events through
4 protection of equipment and the development of
5 mitigating strategies.

6 So basically, the trick is to have the
7 connection between boxes two and four. You have to
8 have equipment that provides the core cooling and
9 other key safety functions and that equipment or
10 some other equipment that would be introduced as
11 part of mitigating strategies has to be able to
12 provide that function given the external event. So
13 that's basically the 100,000 foot summary of why
14 we're here and why there's now a Japan Lessons
15 Learned Division in NRR and why we've issued the
16 orders and requests for information.

17 As Dr. Schultz mentioned, the dilemma
18 that was introduced from the staff's point of view
19 was time, right? We are doing things in parallel
20 that in logical sequence should be in sequence. The
21 evaluation of the hazard and then the mitigating
22 strategies to deal with the hazard makes sense to
23 first evaluate the hazard and then decide how you're
24 going to mitigate it, but the understandable
25 response was we can't wait to do this. And what

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1 might be the most logical thing, we're going to have
2 to do it in parallel. We're going to have to make
3 adjustments as we go along and that is where we are
4 today. It is time where we have to look and say how
5 are these things in parallel affecting each other.

6 So we're looking at it from a regulatory
7 perspective and that's -- I'm a licensing guy. I'm
8 not a technical, so you don't have to worry about
9 challenging me on a technical matter, because I'll
10 default right away to somebody else. But from a
11 regulatory standpoint, we were looking at how we
12 were going to do this.

13 MEMBER CORRADINI: So may I ask, Bill,
14 just because you said -- what you said seems what I
15 saw to be the case. So let me make sure. Is it by
16 Commission direction that you had to do it in this
17 parallel fashion? Or was it by staff decision?
18 Because the parallel versus serial has bothered at
19 least me.

20 MR. RECKLEY: Right.

21 MEMBER CORRADINI: So is it viewed by
22 the staff as by Commission direction in terms of
23 these things must be done by X time?

24 MR. RECKLEY: Largely, but I mean it's
25 both staff, Commission, public, Congress. I mean no

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1 matter how you want to look at this, the expectation
2 was not that the response to Fukushima should be
3 evaluate a hazard for five years and then determine
4 a regulatory action after that time period. There
5 was general consensus, I think, across all
6 communities that things needed to be done quicker
7 than open up a new generic safety issue, process it
8 through, see how it was, and maybe ten years from
9 now we'll have an action in place. I think all of
10 the above.

11 MEMBER CORRADINI: So then just ask the
12 next question, but if you choose a parallel
13 iteration strategy, are you really going to get to
14 the same place faster or are you going to be there
15 in ten years in the place?

16 MR. RECKLEY: I think personally we'll
17 be somewhere better, faster, and in the real
18 permanent end state. It might take just as long or
19 even a little longer, but in the interim there will
20 be actions taken. There's actions being taken right
21 now at the plants that are improving the situation.
22 I think there will be adjustments and improvements
23 through rulemaking and other regulatory processes
24 that will drag on. And we've seen this in any
25 number of examples.

1 If you go back to 9/11, you can say we
2 did some actions that were immediate and beneficial
3 and the rulemaking didn't catch up and things didn't
4 necessarily get finalized for maybe ten years after.
5 But you shouldn't fall victim to saying oh, we
6 didn't take action for ten years. We took a lot of
7 actions in that step and the end state was all
8 wrapped up maybe in the same time frame.

9 MEMBER CORRADINI: Thank you.

10 MEMBER BROWN: I want to address that
11 from his standpoint because I'm not quite sure I'm
12 on the same page as you are. I mean I can
13 understand the parallel approach. I mean the FLEX
14 program is one that was laid on the table. You have
15 loss of power, but you also had instructions to the
16 facilities at Fukushima and there was no
17 infrastructure to get power in to the plant. So an
18 immediate action proposed by industry was to set up
19 centers. Have whatever the machines you needed, so
20 you could bring them in and make sure you had the
21 capacity to bring them in. And I don't know what
22 the status of those regional facilities is yet, but
23 it's in process, isn't it?

24 MR. RECKLEY: They're basically now
25 ready.

1 MEMBER BROWN: Three years.

2 MR. RECKLEY: Three years.

3 MEMBER BROWN: That's pretty good. So
4 you've got an interim, an interim action to address
5 the basic issue which was loss of power, can't get
6 power in. But -- hold it, Mike. But I mean you had
7 infrastructure destruction. You had the diesels on
8 site buried. You had flooding in places. But now
9 if you can get people back in and you can get power
10 in, now you can do clean up. You can get power and
11 some of this would not have happened if they had had
12 that capability.

13 My point being is that when you think
14 ten years to do that, I was aghast that the thought
15 process would take you ten years. So some interim
16 transition action that seems to address a good bit
17 of the issues while you then go reevaluate. Then
18 you evaluate all the other side pieces that go with
19 that. I thought that came out pretty decently.

20 MEMBER CORRADINI: Just to carry on the
21 conversation a bit, I don't disagree with you there,
22 but the timing of when these regional centers have
23 to act and the timeliness of their action and what
24 they have to act against. What does the on-site
25 structure have to withstand whether it be seismic or

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1 flooding? How long does the on-site structure have
2 to withstand -- not structure, but equipment have to
3 withstand it before the regional relief comes in?
4 All of that -- what concerns me is you're going to
5 design it for X and you're going to find oops, I've
6 got to do it for X plus delta X and then you modify
7 it.

8 MEMBER RICCARDELLA: And then you spend
9 more money and staff is doing --

10 MEMBER BROWN: I would disagree with
11 that because I've had circumstances where we had
12 something -- I'm just relating back to the program I
13 came from. We had something that occurred in a
14 particular place and we didn't have these absolutely
15 well-designed connections. We need to cut some
16 holes, put some stuff in and got some stuff done and
17 took the mitigating -- I mean you can do it.

18 CHAIRMAN STETKAR: Charlie, you're
19 missing a bit of Mike's point. Mike's point is
20 people are out there spending real money today
21 designing equipment in their plants, in their
22 plants, to sustain things like their interpretation
23 of the current regulatory requirements for an
24 earthquake acceleration. And they are -- although
25 this particular discussion has floods in it, it's

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1 the same thought process for earthquakes and their
2 strategies in terms of timing and when and what they
3 call in the cavalry for depend on their assumptions
4 about the survivability of that equipment, that
5 they're now spending money to make design changes
6 to. They will then at some time later discover that
7 indeed the earthquake that their design making the
8 changes and spending the money for is maybe one and
9 a half times bigger than the earthquake that they're
10 doing today. So they're going to have to either
11 redesign all of that equipment and spend a lot more
12 money or they're going to have change their entire
13 mitigating strategies and figure out that the
14 cavalry needs to drop in a lot of other stuff --

15 MEMBER BROWN: Ten hours earlier.

16 CHAIRMAN STETKAR: Yes, ten hours
17 earlier. So that's Mike's point.

18 MEMBER BROWN: But still you were better
19 off in the interim.

20 CHAIRMAN STETKAR: Exactly.

21 MEMBER BROWN: You might spend more
22 money, but in that interim period you were better
23 off.

24 MEMBER CORRADINI: So we're debating in
25 front of Bill, but I guess my only point is and just

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1 to be provocative, it's not adequate protection.
2 The NTF July report said this was not for adequate
3 protection, that everything was safe. Therefore, if
4 everything is safe, then again, maybe it's just the
5 engineer in me, I would like to do it in some
6 prescribed fashion that doesn't, and excuse my
7 English, waste money and waste resources which would
8 take away from other safety issues that are probably
9 of higher probability to worry about.

10 VICE CHAIRMAN RAY: Not only that, but
11 backfit is an issue here. What you're saying, Pete,
12 actually involves multiple backfits. Do it this way
13 now. Later on, do it a little bit differently. You
14 have to look at each of those incrementally, not
15 what the end state was compared to the beginning
16 state, but how does each one of those backfits
17 justify, meet the requirements, assuming it's not
18 adequate protection. That's a different ballgame
19 from a regulatory process standpoint.

20 MEMBER CORRADINI: Right, which these
21 guys understand. I don't.

22 VICE CHAIRMAN RAY: Oh, you do. You
23 deny understanding it because you want to be --

24 MEMBER CORRADINI: No because I want to
25 --

1 VICE CHAIRMAN RAY: The reality is that
2 it's easy to understand.

3 MEMBER SKILLMAN: You described it,
4 Mike. You described it very well.

5 MEMBER CORRADINI: Okay, but I just
6 wanted to kind of talk it out because this is --
7 this continues to bother me and I'm -- because
8 eventually it's going to come down to at least in my
9 mind, it's going to come down to what is the extreme
10 event that's within the envelope and outside the
11 envelope and what's the timing I have to respond to
12 the extreme event. And there's going to be a gap.
13 And that gap either has to be taken up by on-site
14 equipment that qualifies or changing the timing
15 which also is going to change response, so that's
16 all. I'll stop.

17 MEMBER SCHULTZ: Between all of our
18 comments, we've set the stage for Bill to work
19 through his presentation because each of his slides
20 is working to address these issues and that's why
21 the staff is -- and as Bill said, this is, a large
22 part of this is the regulatory process. How should
23 this regulatory process work through these issues?

24 MEMBER CORRADINI: And the issue is
25 everybody is right. Everybody who has talked here

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1 is right. Not that I'm sucking up for anything.

2 MR. RECKLEY: And that's really the
3 dilemma of trying to do these things as the way
4 within timeframes and defining the relationship. So
5 this first slide is one approach that could be
6 considered is more or less a parallel track.

7 Licensees would identify the mitigating strategies
8 as a basically all-hazard plan to the best of their
9 knowledge. They're going to assume seismic events.
10 They're going to assume flooding events. And
11 they're going to design that mitigation system on
12 those assumptions and install the -- make any
13 changes to the installed equipment. Make provisions
14 for the installation of the portable equipment based
15 on those assumptions.

16 MEMBER SCHULTZ: And that's happening.

17 MR. RECKLEY: That's happening. And
18 that would be in compliance with the order and then
19 that logic would get taken into the rulemaking, the
20 mitigation of beyond design basis events rulemaking.

21 The evaluation of flooding hazards,
22 seismic hazards, other hazards under Recommendation
23 2.1 would continue also on a parallel track and at
24 some point those reevaluated hazards would be
25 assessed under backfit provisions or other

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1 provisions and would get addressed, either as
2 changes to mitigating strategies or as changes to
3 other parts of the facility. So that's one aspect
4 that was considered.

5 And another approach that was considered
6 is that mitigating strategies should address the
7 reevaluated hazards coming out of Recommendation
8 2.1. And so you just see the same boxes, but
9 physical protection, the mitigating strategies, and
10 also the development of strategies would be captured
11 under that regulatory activity, under mitigating
12 strategies, ultimately through the rulemaking.

13 So this discussion actually has occurred
14 a couple of times on what's the right approach. The
15 discussion we had a year ago or a little over a year
16 ago when we were doing the regulatory basis document
17 for what was then the SBOMS, station blackout
18 mitigating strategies, rule and now is the
19 mitigation of beyond design basis events rule --

20 MEMBER CORRADINI: The unpronounceable.

21 MR. RECKLEY: If we wait, it will change
22 again. But what was decided when we did that reg
23 basis document was that we wanted, the staff wanted,
24 the Agency wanted this approach where the mitigating
25 strategies and related equipment would be able to

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1 address the reevaluated hazards coming out of 2.1.
2 So that's basically that language.

3 So my joke is everybody gets confused on
4 four blocks, so I'll clarify with ten blocks. This
5 is my attempt and it's probably not successful, to
6 put together our activities related to
7 Recommendation 2.1 and our activities related to
8 mitigating strategies. And of course, try to see
9 how they can tie together.

10 The complication with mitigating
11 strategies is it's being done in two steps. It's
12 being done by the order that's real time. People
13 are making changes to the facility to comply with
14 that order. And then also that will be captured in
15 the subsequent rulemaking.

16 The current guidance is that licensees
17 should use the most recent site flood analysis. So
18 if they have information, they should use it. If an
19 operating plant is located next to a new plant, they
20 should use the flooding information from the new
21 plant. If they have any other information that
22 they've incorporated over the years, they should use
23 the most recent site flood analysis. But for some,
24 the reevaluated hazard coming out of the full blown
25 2.1 request for information won't be ready. So

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1 again, we're back to the fact that the rule may
2 require licensees to do assessments and possibly, if
3 the assumptions are different, changes to
4 accommodate that. And I'll have a slide basically
5 for how the industry proposes to work through this.

6 The relationship though between the 2.1
7 activity and the recommendation for mitigating
8 strategies activity is fairly straight forward then.
9 It's going to take information out of the flooding
10 reevaluations and kind of test mitigating strategies
11 against that hazard. It's a fairly traditional way
12 that we do activities and test design capability.
13 You have a design and now I'm going to throw
14 assaults against it, seismic events, flooding
15 events, other failures, to see if it performs
16 adequately. So that's a fairly standard approach
17 and the general agreement, again, based on the
18 regulatory basis document for the rule, but this is
19 the approach we want to take.

20 There was a little more internal
21 discussion about other possible changes to the
22 facility other than mitigating strategies and that's
23 currently what we're trying to work through as we
24 speak. And it's also the -- we remain unwilling to
25 say that the only thing that will come out of the

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1 flooding evaluations are changes to mitigating
2 strategies.

3 There is always the potential when
4 you're doing assessments and analysis that you're
5 going to learn some lesson and you're going to say
6 mitigating strategies was, is a last line of defense
7 against a beyond design basis event. Maybe we don't
8 want to rely on that last line of defense for a
9 hazard that's been identified. Maybe there's
10 something else that should be done and as the box
11 shows, we would consider doing that under the
12 backfit provisions.

13 VICE CHAIRMAN RAY: Can I make a comment
14 here? I mean obviously, we're in an environment
15 where people aren't -- licensees aren't going to
16 challenge doing things that they know they want to
17 do for their own reasons.

18 MR. RECKLEY: Right.

19 VICE CHAIRMAN RAY: Be that aside, if
20 the upshot is you spend more money as you say, Pete,
21 even though you get some benefits in this interim
22 period, but the effect of spending that extra money
23 is you can't at the end of the day justify doing
24 what you want to do. You've really defeated your
25 purpose, your long-term purpose, because you've

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1 spent money doing this. Now you want to do
2 something else, but the totality of what you're
3 spending isn't warranted under the backfit rule
4 because you've spent all this money in the one
5 direction and now you've got to spend money to do
6 the additional whatever it is.

7 MR. RECKLEY: Right.

8 VICE CHAIRMAN RAY: So I think that the
9 concern that Mike had is really affected by what
10 drives the whole industry and Agency and that is
11 what you mentioned, Bill, to start with which is the
12 need to show action. But at the end of the day,
13 it's possible that what you'd really like to have
14 done you can no longer justify because you've
15 already done what you've done. And I know the
16 industry views it that way.

17 MR. RECKLEY: And that is really point 7
18 on this graph, which is when we do an assessment on
19 whether something beyond mitigating strategies
20 should be imposed, you have to assume the mitigating
21 strategies has been implemented which will affect
22 directly the safety benefit of the alternate action.

23 VICE CHAIRMAN RAY: Without attributing
24 it to anybody else, if I'm the licensee I want to
25 rush out and do what I can do at this price, rather

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1 than wait around and have to do something much more
2 dramatic at a higher price. For example, there was
3 a time when I was responsible for a plant where I
4 had to actually change the design basis. That's
5 really expensive. I much more would have preferred
6 mitigating the fact that there were external events
7 that could exceed the design basis.

8 So strategically, it's not a bad idea to
9 go out and implement the mitigating strategies
10 because now I've made less compelling the need to
11 change the design basis. There are lots of dynamics
12 that go on here in this setting that don't apply
13 necessarily to other things that would not have the
14 urgency that this does.

15 MEMBER-AT-LARGE BLEY: Let me ask a
16 question. I mean this whole discussion is very
17 interesting. I know you folks have had it for a
18 long time and we've written letters related to this
19 from the beginning of this whole issue. In the end,
20 we'll have something that's pretty good and maybe it
21 would have been better if we had done it in the most
22 logical approach. But we would have had a period of
23 time where we weren't as well protected. So there's
24 a real trade off here.

25 How -- and I haven't thought this

1 through, it just popped in my head. How is this
2 process, if it comes up with a less than optimal
3 result, going to impact new plants coming along?
4 Will they lock into where we end up or will they be
5 able to take advantage of what we would have liked
6 to have done if we had known enough in the
7 beginning? And I don't have a real answer to that.

8 MEMBER SCHULTZ: There's always an
9 advantage for new plants in that you're going to
10 start with knowledge of the reevaluated hazard
11 already. So when I'm doing the siting and when I'm
12 doing the plant design, I'm going to put in
13 provisions and include appropriate margins for that
14 new plant.

15 In addition, and you guys are very
16 familiar with Part 52, there's other requirements
17 that differentiate new plants from operating plants
18 in terms of safety features and passive approaches
19 that have been adopted that will help in this. So
20 this focus and I'm from NRR, is really on operating
21 reactors. The new reactors, yes, the rule will
22 apply and they will have to address --

23 MR. RECKLEY: And they're responding to
24 it.

25 MEMBER-AT-LARGE BLEY: Yes.

1 MR. RECKLEY: Even before they're built
2 so they'll have the design.

3 MEMBER SCHULTZ: There is that aspect,
4 but there's also the -- what is the process to
5 evaluate the expectations related to the beyond
6 design basis event?

7 MR. RECKLEY: Yes, but again, and
8 especially here, there sort of ends up being a
9 differentiation because the 2.1 activity is for
10 operating reactors to assess what would be the
11 design basis flood for a new reactor to incorporate
12 all of the new guidance and all of the provisions
13 that have been developed over the last 30 years.
14 And so new plants are already going to be evaluating
15 against that. This is really when you take an
16 operating plant and say okay, take all of the
17 lessons learned over the last 30 years and apply it
18 to your facility, what's the delta?

19 Andy, did you want to --

20 MR. CAMPBELL: Yes, I'm Andy Campbell.
21 I'm the Deputy Director of the Division of Site
22 Safety and Environmental Analysis. And Bill has
23 characterized it, I think this is correctly. The
24 evaluation criteria under 2.1 is the criteria we use
25 with regards to new reactors. It's under Part 52.

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1 So it's 30 years of knowledge and how we're
2 evaluating it.

3 The plants we're talking about were
4 licensed many years ago and therefore have the
5 deltas between that criteria and how they were
6 licensed originally, and the impacts of some of what
7 we know about flooding events and seismic events now
8 compared to the past.

9 MEMBER CORRADINI: So may I just ask
10 since you brought this up or somebody brought it up,
11 but maybe through Dennis, so if I have a new plant
12 and I don't think, I'm not sure we're part of the
13 process, but if I have a new plant and I apply 2.1
14 and I have to mitigate, there is a possibility that
15 they can't meet --

16 MR. CAMPBELL: No, we've already applied
17 2.1 to them because that is how the design is.
18 That's the criteria that's being used for licensing.
19 The approach is the methodologies and the guidance.

20 MEMBER CORRADINI: There's no chance
21 that meeting the 72-hour expectation in some of the
22 new plant designs with RTNSS equipment would be
23 challenged by a re-evaluation of the design base
24 following 2.1?

25 MR. CAMPBELL: There should not be. We

1 have a working group within NRO that's looking at
2 ensuring that that's the case.

3 MEMBER CORRADINI: I'm looking at John,
4 if I've stated it right because my impression was
5 there's -- there is a chance that that -- there's a
6 gap. And you're saying there's not a chance.

7 MR. CAMPBELL: For the evaluation of
8 flood hazard and the evaluation of the seismic
9 hazard.

10 CHAIRMAN STETKAR: I think the key,
11 Mike, is they're carefully saying our concern has
12 been what is the beyond design basis event that
13 you're mitigating? They're currently -- they've
14 reevaluated, for example, the seismic hazard using
15 the current seismic hazard information, according to
16 2.1. They're now designing on-site mitigation
17 equipment to survive that design basis earthquake.
18 They're not designing it to survive anything beyond
19 that design basis earthquake which is a different
20 question.

21 MEMBER CORRADINI: So if the site comes
22 up with --

23 CHAIRMAN STETKAR: So for example, if
24 you have a -- without getting specific, if you have
25 a site with an existing reactor and a new planned

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1 reactor, the current existing reactor might have a
2 design basis earthquake acceleration of pick a
3 number, .2G. And they're reevaluating it.

4 The reevaluation shows that the design
5 basis acceleration is .3G. The new plant at the
6 site should be designing their equipment to survive
7 .3G. But they're not designing it to survive
8 anything more than .3G. The existing reactor now
9 has to deal with what's the difference between .2
10 and .3 and when in time do they enhance the design
11 to survive .3G. Have I got it right, Bill?

12 MR. RECKLEY: Yes.

13 MEMBER CORRADINI: But if I might just
14 ask John, just to clarify. But again, not to
15 specifics, but if I have RTNSS equipment in the new
16 plant that's certified and I don't expect it to need
17 to be used -- or I expect to want to use it after
18 some amount of time to get me to 72 hours where I
19 can again with expectation use active equipment,
20 you're saying that in some sense is covered. I'm
21 not real --

22 CHAIRMAN STETKAR: It's covered under
23 .3G in my example. It's not covered for .5G.

24 MEMBER CORRADINI: Which still may come
25 up.

1 CHAIRMAN STETKAR: It may come up. The
2 likelihood of .5G is not zero.

3 MR. MONNINGER: If I may, this is John
4 Monninger from the Office of New Reactors Division
5 of Safety Systems and Risk Analysis.

6 With regard to the specifics of RTNSS in
7 72 hours, credit is not given for RTNSS in the 72
8 hours. The ability of new reactors to meet the 72
9 hour phase 1 time period is solely based on the
10 safety systems, the passive safety systems. It's
11 post-72 hours --

12 MEMBER CORRADINI: I'm sorry. I said it
13 wrong. I apologize.

14 CHAIRMAN STETKAR: You should have been
15 talking about 72 hours to 7 days.

16 MEMBER CORRADINI: Yes, thank you. It
17 was my mistake, I'm sorry.

18 MR. MONNINGER: And then from the 72 --
19 after the 72 hour time period, the staff's curve
20 position is at that time they could then transition
21 to off-site resources. So there's a big question of
22 whether phase 2 is even needed for the new reactors
23 even though they do have that capability.

24 MEMBER CORRADINI: Okay, I made the
25 mistake. I should have said after three days

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1 instead of under three days.

2 But John, just to be clear, after the
3 three days to the seven days at least my
4 interpretation is is it's not clear that you can --
5 it's not clear what the staff's guidance is to these
6 new reactors to qualify to if they wanted to make
7 claim from three to seven.

8 MR. MONNINGER: We do believe we have a
9 criteria out there for RTNSS for the seismic
10 capability, for the structurals, for flooding
11 protection, etcetera. So we do believe there is a
12 good story for RTNSS equipment if RTNSS equipment is
13 to be relied upon in the staff's finding.

14 CHAIRMAN STETKAR: And that story is
15 that it must be qualified to survive the design
16 basis earthquake or in my example, .3G. Is that
17 correct?

18 MEMBER CORRADINI: Did you hear that,
19 John?

20 MEMBER RICCARDELLA: Why would you do
21 that? You don't need it in a new plant.

22 CHAIRMAN STETKAR: No, let him. I
23 reevaluated my seismic hazard according to 2.1 and I
24 for whatever reason said .3G is my evaluated design
25 basis earthquake. It occurs at the magic 10 to the

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1 minus 4 event per year. Okay. And the guidance
2 from the staff says that now I must -- I have to be
3 careful because "must" is kind of a shaky word in
4 the terms of RTNSS, but the expectation is that the
5 RTNSS equipment and its structures will be designed
6 to the design basis earthquake, or in my example,
7 .3G. Is that correct?

8 MR. MONNINGER: Yes.

9 CHAIRMAN STETKAR: Thank you. Not to
10 .5G.

11 MEMBER RICCARDELLA: But you don't need
12 the RTNSS equipment in a new plant for .3G, do you?

13 VICE CHAIRMAN RAY: They may want to
14 credit it --

15 CHAIRMAN STETKAR: They may want to
16 credit from three to seven days, after three days.
17 If I have a .5G earthquake and the RTNSS equipment
18 is in rubble, I now need the cavalry to drop the
19 stuff --

20 MEMBER CORRADINI: I default to what the
21 current plans require.

22 CHAIRMAN STETKAR: It's 72 hours. And
23 that changes my strategy for calling up Memphis and
24 saying get the planes flying, when they fly, and
25 maybe what I might need. Because what you might

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1 need -- because what decay heat is, because what
2 pressure temperature might be. I've said enough.

3 MEMBER CORRADINI: I get it now. Thanks
4 for correcting me, John.

5 MEMBER SCHULTZ: Bill, before you move
6 forward, you said this is your picture of what is
7 being proposed and as you think it should be. So
8 could you walk through it?

9 MR. RECKLEY: Sure. So in the tan or
10 pink, whatever color that is, you basically what is
11 a summary of what's being done under Recommendation
12 2.1. You are evaluating flooding hazards. You are
13 looking at various mechanisms, dam failures,
14 tsunamis, seizures, rain events, flooding events
15 from rivers. You're looking at those various things
16 and comparing it against the design basis. The
17 existing design basis flooding events for an
18 operating plant.

19 And in some cases, the design basis is
20 bounding for those events and we basically would
21 stop there. For others, the reevaluated hazard will
22 be higher than the design basis and you enter into
23 an assessment of what is the effect of that new
24 event or different event than the design basis
25 event?

1 The strategy then was once we have that
2 assessment, we would enter phase 2 of Recommendation
3 2.1 flooding and decide what to do with that
4 reevaluated hazard. The change here to the degree
5 that it is a change is that the thinking is that we
6 need to take those assessment in flooding hazards
7 and right now start thinking about how they affect
8 mitigating strategies equipment and so that is now
9 the connection back between integrated assessments,
10 looking at it, a targeted look at mitigating
11 strategies and making sure that the mitigating
12 strategies, the equipment and the strategies, a
13 combination are able to address that reevaluated
14 hazard.

15 In addition to that, how does the
16 flooding hazard evaluations and integrated
17 assessments licensees may identify improvements they
18 want to make on their own. That would be number
19 five. They might say hey, as an asset protection
20 measure or some other benefit that we see, it makes
21 sense to raise a barrier or do some other action.

22 In addition to that. there may be cases,
23 as I mentioned earlier, where a particular flooding
24 event due to its expected frequency or something
25 else is such that we want to consider more than

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1 mitigating strategies. As Harold already said, we'd
2 have to consider while we've already installed
3 mitigating strategies, what is the benefit of an
4 extra measure, but that's the way it would be
5 pursued.

6 Within the mitigating strategies blue
7 box is the acknowledgement that we are now
8 implementing the order, EA-12-049 is being
9 implemented. Changes are being made to sites.
10 They're doing that on the most recent site flood
11 analysis which could be different than the
12 reevaluated flood. And so that's now 2b in the box
13 there a possibility that licensees are going to have
14 to make a change. And now the slide where again,
15 the industry is already thinking about this and now
16 they will walk through the difference between 2a and
17 2b.

18 CHAIRMAN STETKAR: Bill, I know you've
19 got a lot of slides and I know this is cast in the
20 context of flooding, but I keep coming back to
21 seismic because I know that, for example, some -- at
22 least one, I don't know many, but I know of at least
23 one plant that to develop their mitigating
24 strategies approach now under the existing order is
25 upgrading existing plant equipment to survive the

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1 current design basis earthquake, despite the fact
2 that they reevaluated the site hazard.

3 But in order to satisfy the timeline of
4 the current requirement, their interpretation is I
5 need to upgrade this equipment that I haven't taken
6 credit for previously. It's not safety-related
7 equipment, but it's part of my mitigating
8 strategies. But I'm only going to upgrade it to the
9 current design basis earthquake in my previous
10 example, .2G, let's say. Even though I know I've
11 reevaluated the site that the new seismic
12 acceleration might be .3G, but they're saying I
13 don't know what I need to do with that because the
14 regulator hasn't told me what I need to do with
15 that. But I know I need to do something today. So
16 I'm doing it to .2G.

17 MEMBER CORRADINI: To meet the timeline.

18 CHAIRMAN STETKAR: To meet the timeline
19 for what I'm calling mitigating strategies. So how
20 do you address that because they're spending real
21 money doing it?

22 MEMBER CORRADINI: And if they addressed
23 it that way, would it be backfit? Would it be a
24 backfit analysis or would it be an order to say
25 nope, you didn't do enough, go back and do it again?

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1 MR. RECKLEY: Well, the way we're
2 viewing it and seismic has its unique aspects and
3 we'll have to address seismic after we get through
4 flooding, but as I mentioned earlier, this is the
5 risk and it is the problem that enters into it. I
6 think the industry, again, when I get to that slide,
7 they've thought of this in order to try to minimize
8 it. But you can't eliminate -- once we made a
9 decision that mitigating strategies should address
10 reevaluated hazards, you cannot totally escape the
11 potential that when the reevaluated hazard is done
12 that you missed it. Licensees would be wise to
13 build in some margin if they think they need to, but
14 we'll get to what the industry is proposing.

15 Sort of related to the discussions we've
16 been having, I'll just skip this slide, and I'll try
17 to do it real quick, but a lot of the issue revolves
18 around the same discussions we've been having for
19 nearly 40 years, really, in terms of relationships
20 and how we address different problems. So I tried
21 to on this slide for a public meeting and internal
22 discussions, lay out the terminology that we use
23 because we get tripped up on this constantly.

24 So you have a design basis event. The
25 importance of the term design basis event is it's

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1 used in the definition of safety related. So it's
2 tied directly to the safety classification of
3 equipment. Design basis is a more generic term and
4 applies to really any safety function that a piece
5 of equipment is serving and that could be a design
6 basis event which caused that equipment to be safety
7 related or it could be something different. And
8 I'll go through an example real quick.

9 Then you have licensing basis which is
10 another reason that a licensee said I'm going to
11 credit this piece of equipment and the NRC said
12 okay, you can do that, but it's incorporated within
13 the licensing basis, but it doesn't form part of the
14 design basis for that piece of equipment.

15 And then lastly, there's the engineering
16 design basis which we came up in the 1990s just
17 because these are industrial facilities and power
18 plants and there are things -- I know it's hard for
19 us to imagine, but licensees have to consider that's
20 outside of our regulatory area.

21 So let me go through an example real
22 quick. And the box with design basis events just
23 says this is the confusing part. That spans
24 everything. Right? I can have a design basis event
25 that shows up almost anywhere except safety

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1 classification because as soon as I say it's a
2 beyond design basis event, I'm saying it doesn't
3 need to be safety related equipment. That's
4 basically the terminology that we get tripped up and
5 you can see all the similarities of the language.

6 So let me take something like auxiliary
7 feedwater. Auxiliary feedwater for many plants is a
8 safety related piece of equipment. It's credited in
9 Chapter 15 for loss of heat sink accidents. It
10 might be credited for other design basis events. So
11 auxiliary feedwater is safety related in my example.
12 As soon as I say it's safety related, it has to be
13 protected against the design basis earthquake and
14 the design basis flood. Okay? Among other things.

15 Auxiliary feedwater might get credited
16 for other things. It might have gotten credited in
17 the old station blackout rule. It's definitely for
18 some plants going to get credited as part of their
19 installed mitigating strategies for beyond design
20 basis external events. It now has a new design
21 basis element for that component or system. Now
22 only does it have to satisfy all the requirements of
23 Chapter 15 and I have additional requirements on it.

24 In the case of flooding, let's say this
25 plant is subject to a fast flood, a flood with

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1 little warning so there's no time to prepare. Not
2 only does auxiliary feedwater have to protect
3 against the design basis flood, the original design
4 basis flood, we would say it now has to be protected
5 against the reevaluated flood, auxiliary feedwater.
6 Maybe just the turbine driven auxiliary feedwater.
7 The motor driven auxiliary feedwater has to meet all
8 the safety-related components, safety-related
9 requirements because that's also credited in the
10 design basis events. But it would not have to be
11 protected against the reevaluated flood because it's
12 not used as part of mitigating strategies. We're
13 only using the turbine driven.

14 This is not really complicated. I mean
15 licensees understand that one piece of equipment has
16 a lot of demands and requirements that are coming
17 from various directions. So in that particular
18 case, the design basis for auxiliary feedwater
19 includes all the safety-related functions. It also
20 includes for our purpose additional requirements for
21 mitigating strategies. That's part of the design
22 basis for that equipment, right?

23 I wished we could have used different
24 terminology over the years, but we didn't and it's
25 just --

1 MEMBER SKILLMAN: In that example, what
2 is important is what you mentioned is accurate as
3 long as the licensee has credited the device for
4 that specific event.

5 MR. RECKLEY: Yes.

6 MEMBER SKILLMAN: And so the magic in
7 this is understanding where the licensee has taken
8 credit for the SSCs.

9 MR. RECKLEY: Yes.

10 MEMBER SKILLMAN: Thank you.

11 MR. RECKLEY: In this example --

12 VICE CHAIRMAN RAY: Dick, can I --
13 excuse me, Bill. Would you agree to say it another
14 way where the NRC has granted credit as opposed to
15 where the licensee has taken credit?

16 MEMBER SKILLMAN: Yes, sir. Where the
17 -- it's where the licensing documentation credits
18 those devices.

19 VICE CHAIRMAN RAY: My point being that
20 you don't need to inquire -- you should have to
21 inquire of the licensee if he had taken credit or
22 not. It should be. This goes in the licensing
23 basis.

24 MEMBER SKILLMAN: Yes.

25 MR. RECKLEY: It's worked out in the

1 interim actions between the licensee and NRC.

2 In this example, I don't have one, but
3 I'm sure there are cases where auxiliary feedwater
4 is used in plant licensing discussions for something
5 other than those two things. That might show up in
6 the FSARs. Hey, we use it for this. Within the
7 engineering design basis maybe they use it in a
8 plant startup and it has functions in that regard
9 that really aren't related to a regulatory matter.
10 So that one system can cross all cases.

11 MEMBER SKILLMAN: And Bill, one other
12 point.

13 MR. RECKLEY: Sure.

14 MEMBER SKILLMAN: We've heard around
15 this table a number of times licensees have told us
16 we're a pre-GDC plant.

17 MR. RECKLEY: Right.

18 MEMBER SKILLMAN: And a lot of the pre-
19 GDC plants have auxiliary feedwater or emergency
20 feedwater or startup feedwater they use almost
21 interchangeably that were off the shelf from the
22 garage down the street. And so there has been a
23 huge effort --

24 MR. RECKLEY: And that's the difficulty
25 is depending on the age of the plant and when it was

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1 licensed, you can have a variety in any of these
2 examples. So I do want to get to one last slide, if
3 I can.

4 MEMBER RICCARDELLA: I've just got a
5 question on this one if I could. Going back to your
6 example, the auxiliary feedwater system. If the
7 licensee goes out and does everything that's needed
8 to be done and let's say it's an earthquake and you
9 go from John's .2G to .3G. He updates it. He makes
10 modifications or sharpens his pencil and says okay,
11 this is good, this auxiliary feedwater system is
12 good for .3G. Does he have to submit a license
13 amendment then in your view? This is something
14 Harold and I have been debating. Does that require
15 a license amendment?

16 MR. RECKLEY: Not the way it's currently
17 laid out because the .3G in this example is going to
18 be in this space. They're going to say our design
19 basis earthquake remains .2G. Auxiliary feedwater
20 needs to survive .3G, but that's this function.
21 It's now design basis. It has to be -- we even use
22 different terminology. It's now seismically rugged
23 and it will reevaluate it up to .3G. But that's in
24 this space and that's captured under the
25 documentation and licensing submittals related to

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1 mitigating strategies.

2 MEMBER CORRADINI: So it avoids the need
3 of a license amendment.

4 MR. RECKLEY: Yes. There's really no --
5 they will do this to comply with the rule, but it
6 would not change the technical specifications or
7 other elements of your operating license such that
8 they need.

9 Now if they want to come back later and
10 try to credit this in some other way, that they're
11 going to now say okay, now that I've done that
12 improvement I want to come back and get relief in
13 another area of the technical specifications, that
14 would be license amendment. But the way we've laid
15 it out it would not.

16 VICE CHAIRMAN RAY: We shouldn't pursue
17 this -- the question isn't the question the way I
18 would have asked it, but let's just leave it. It
19 alludes to what he just said. But it's too lengthy.
20 We're running up against --

21 MR. RECKLEY: I do want to walk through,
22 we had a meeting last week with the industry to talk
23 about this and they laid out how they were thinking
24 about doing it and this was one meeting, one slide,
25 so obviously we'll have to work through all the

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1 details, but the industry is basically at that
2 meeting acknowledging this part that mitigating
3 strategies they would think needs to address
4 reevaluated hazards. And they laid out this flow
5 chart as to how it would work.

6 So just quickly going across it, you
7 have the new hazard, the reevaluated hazard. Just
8 like now if that hazard is no worse than my existing
9 design basis hazard, I basically stop here. I don't
10 need to make plant modifications. I don't need to
11 do any more.

12 The next one is did I build margins in
13 because I had information or just did it that I --
14 when I installed my mitigating strategies, let's say
15 my connection point for portable equipment, did I
16 make it higher than my existing design basis flood?
17 Go look and say that was a wise move. Now I don't
18 have to change that connection point because it's
19 always high enough.

20 They would look -- the next block where
21 it gets a little more complicated, especially in
22 flooding events, you introduce a time element. How
23 much warning do I have between the initiating event,
24 let's say an upstream dam failure and the arrival of
25 a flood? Do I have time to shut down the plant, for

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1 example, and use my portable equipment in which case
2 my connection point needs to be high enough to
3 address the reevaluated flood, but my installed
4 equipment is not going to be used because I'm going
5 to shut down the plant before the flood waters
6 arrive.

7 In that case, again, they would not need
8 to make changes to their mitigating strategies or
9 equipment because time works in their favor for that
10 scenario. Now they'll have to go through the
11 different scenarios to see, but for this example.

12 Then you cross the line in their slide
13 and basically now their assessment is what we put in
14 place as part of our all hazard mitigating strategy
15 doesn't address the reevaluated flood. Now this is
16 what we were trying to avoid, but we didn't. And
17 licensees now have a choice under what they're
18 proposing. The first was the hardware change. Hey,
19 the reason my mitigating strategies doesn't address
20 the reevaluated hazard is because my connection
21 point should be ten feet higher. Well, they have a
22 choice. And under the first green box, they'll say,
23 hey, we can do that. We can run the pipe a little
24 longer. We can make the connection point the next
25 elevation up and we can do it through a hardware

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1 change. Right?

2 The next one is keeping in mind that
3 mitigating strategies is basically addressed as all
4 hazard plans, you can say we addressed -- the
5 licensee can say we addressed most of the hazards
6 we've identified. But there's a scenario coming out
7 of our reevaluated flood that it didn't address. A
8 scenario. They can come up with a targeted approach
9 for that scenario. They can identify perhaps
10 equipment or strategies different than what was put
11 in place for the order. Now that will get captured
12 by the rule, it will get brought into place that for
13 a scenario, they have a targeted approach.

14 This is the slide the industry used, but
15 it basically is consistent with the discussions we
16 had with the industry as to how we thought it would
17 fit together by saying mitigating strategies has to
18 address the reevaluated flood, including the last
19 box. But if they had to come up with a targeted
20 approach that might be acceptable, but it is part of
21 the rule that that is needed to have, that targeted
22 approach.

23 MEMBER CORRADINI: And that would be
24 everything to the right of the line would be judged
25 because the rule requires it. It wouldn't be a cost

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1 benefit analysis.

2 MR. RECKLEY: That's right.

3 MEMBER-AT-LARGE BLEY: Bill, is there
4 anything in the thinking of staff that would
5 restrict this to reevaluated flood that would be
6 applied to reevaluated any aspect of the design
7 basis?

8 MR. RECKLEY: There's a logical
9 connection that once you define this process and say
10 it works for floods, that it has implications for
11 other areas. We just haven't thought all the way
12 through the seismic area and to be honest, we're
13 just -- we haven't done a whole lot for other
14 hazards, but we're thinking it will be much easier
15 for other hazards we haven't really started yet. So
16 knowing this is in place, we'll have a process to
17 evaluate them a little easier. For seismic, we're
18 well along and another case where we had basically
19 flooding hazards, seismic hazards, and mitigating
20 strategies in parallel, so we're going to have to
21 look and say how can we marry these things up.
22 There's an obvious implication.

23 CHAIRMAN STETKAR: I guess I'd ask why
24 would this process be different for seismic versus
25 flood?

1 MEMBER-AT-LARGE BLEY: Or any.

2 CHAIRMAN STETKAR: Or anything.

3 MR. RECKLEY: And we're just not ready
4 to say whether it will or won't be different. We
5 are looking at it --

6 CHAIRMAN STETKAR: Let me -- what about
7 those other hazards would make this process
8 different? I mean let me phrase it --

9 MR. RECKLEY: I guess I'll say I can't
10 think of anything, but we have to really look
11 through it to see how we've been addressing it and
12 how it might work to make sure that they marry up
13 appropriately.

14 CHAIRMAN STETKAR: I'll let you finish.
15 Sorry.

16 MEMBER SCHULTZ: But I want to come back
17 to this after this next two slides.

18 MR. RECKLEY: This slide is just
19 basically a summary at a minimum. The reevaluated
20 hazards would have to be addressed through
21 mitigating strategies. Through this process, there
22 is a discussion of what the impact would be on the
23 further assessments, how much further do you go in
24 assessing flooding events beyond its impact on
25 mitigating strategies. That's really where we are.

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1 I wish instead of "reduces" I would have said
2 "affects." And then -- because that's really the
3 discussion we're trying to have is what impact does
4 this have on the broader assessment of flooding
5 events. And then as always, there's a possibility
6 that we'll identify something that results in
7 further actions.

8 So the last one on next steps, so
9 today's meeting, we're revising the COMSECY, taking
10 into consideration various internal and legal
11 comments. And our plan is to issue a COMSECY
12 probably in October. Once we do this, obviously, we
13 will need to talk with industry about the
14 implications of it of what guidance might need to be
15 changed and how we'll work through this.

16 CHAIRMAN STETKAR: Just to clarify in my
17 mind, this COMSECY will be uniquely focused on the
18 title of this presentation which is uniquely focused
19 only on flooding. Is that correct?

20 MR. RECKLEY: Yes. Again, with an
21 undercurrent, if you will.

22 MEMBER-AT-LARGE BLEY: Let me just say
23 what eats at me when you say it that way, I just
24 hope the others aren't moving especially seismic,
25 but anything else that's going on isn't moving

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1 forward with its own approach separate from what
2 this looks like, on purpose, without being really
3 tied together.

4 MR. RECKLEY: We are talking both
5 internally and with the industry and I think all the
6 parties are aware of where we are and what we're
7 doing.

8 Again, the biggest thing is we just are
9 not quite ready to say how in the details if it
10 would work out for seismic that might be a little
11 different than flooding.

12 CHAIRMAN STETKAR: That's troubling, by
13 the way on the record, the notion that it might be
14 different and you haven't thought it through,
15 especially at this level.

16 MEMBER BROWN: The industry seems to --
17 I don't see flooding in here anywhere. This looks
18 pretty generic. Like you say --

19 MEMBER SCHULTZ: The corollary concern
20 is what is the forcing function related to flooding
21 that would push it so hard that we need to get it
22 out for flooding in October and we're still thinking
23 a bit, we, the NRC, is thinking a bit about seismic
24 and other events, whereas industry in their
25 discussions are laying it out for a complete picture

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1 of beyond design basis events.

2 MR. RECKLEY: There's a number of
3 reasons that get -- we were just at a point where
4 the flooding reevaluations and mitigating strategies
5 was one, it's an easier example to think about to be
6 honest because flooding in its impact --

7 MEMBER SCHULTZ: And that's a good
8 thing. But if one then sets in a -- if one puts in
9 a set process that's going to handle floods and then
10 needs to be modified for other events, that's
11 another inefficient process.

12 MEMBER CORRADINI: Another iteration
13 loop.

14 MEMBER SCHULTZ: Another iteration loop.

15 MR. RECKLEY: I understand the concern
16 and it's one we talk about. I don't -- I'll be
17 honest. I don't really have a good answer as to
18 why. We have thought about it. It's not lost on
19 us, the points that you're making, but we can move
20 forward, we think on flooding. It's not logically
21 that these other hazards are different. It's that
22 we've thought flooding through better and seismic.

23 For example, in seismic, you have -- the
24 industry has proposed an expedited approach. We're
25 going to look at selected important equipment like

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1 mitigating strategies. And the interim approach or
2 the expedited approach is for those plants where the
3 new seismic hazard is considerably higher, though at
4 least look two times the event.

5 Well, for some plants, the seismic event
6 might be slightly more than 2. Well, we haven't
7 thought all of the way through that and how that
8 might work here between the interim actions, in this
9 case, the expedited approach and how this process
10 would work because there's still technical work in
11 the seismic area that's ongoing. So -- but again,
12 now you're getting back to the point where I should
13 have shut up five minutes ago saying I'm a licensing
14 guy and I don't understand seismic stuff.

15 So --

16 CHAIRMAN STETKAR: Well, but Bill, don't
17 do that. Because as Charlie noted, I don't see
18 anything on this slide that says flood, flood, flood
19 versus seismic, seismic, seismic. And this is your
20 bailiwick. This is licensing. It's not designing a
21 pump or a hanger.

22 MR. RECKLEY: And again, and it wasn't
23 lost on us and it's not that this kind of approach
24 if we accept it for flooding sets the stage for the
25 other hazards. And I'm not trying to argue that it

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1 will be dramatically different. I'm just saying it
2 hasn't been thought all the way through in terms of
3 where we are in the reevaluations and all of the
4 technical matters to say it would work exactly like
5 this.

6 MEMBER SCHULTZ: Bill, can you share
7 with us now what the SECY is going to request of the
8 Commission in terms of their decision making?

9 MR. RECKLEY: Basically, it's asking the
10 Commission to agree that the intent all along has
11 been that the mitigating strategies and this is in
12 particular the rulemaking activity is intended to
13 capture the reevaluated hazard, boiling it down to
14 the real bottom line. That's what we expect to ask
15 the Commission to affirm.

16 CHAIRMAN STETKAR: Steve, if you can,
17 because we're running a little short of time.

18 MEMBER SCHULTZ: We might have been
19 asked it, but back to my first question, why aren't
20 you bringing the COMSECY to the ACRS before you send
21 it up to the Commission to get our input? Or rather
22 than saying why aren't you, will you? I'm
23 requesting it.

24 MR. RECKLEY: I will have to -- this is
25 a case where I can say I'm just way down here in the

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1 organization.

2 MEMBER SCHULTZ: I'll just put it on the
3 record. There's enough here, I think, that we've
4 got enough, based on this exchange, at least in my
5 mind, concerns about not only this process within
6 the focused construct of flooding, but how it might
7 affect all of the other hazards and how the plants
8 might react to that. I think at least we would
9 benefit from seeing what you're sending up and
10 perhaps the Commission might benefit from our input
11 before the --

12 MR. RECKLEY: We will --

13 MEMBER SCHULTZ: And that's why I was
14 asking about timing because we have a full meeting,
15 the Fukushima Committee does on mitigating
16 strategies and combined rulemaking in November. A
17 letter expected based on our known schedule now in
18 December. So this is coming in -- if we don't see
19 it now before it's issued, then it's going to be
20 sitting there for us to comment on later. That's
21 not efficient for us to communicate with the
22 Commission that way.

23 MR. RECKLEY: I will certainly take back
24 the request and really it would come down to a
25 matter of before or after issuance of the paper.

1 I know the preference is always before.

2 MEMBER SCHULTZ: John put it on the
3 record. With that, I'm going to ask now for public
4 comments. If any in the room -- Cathy, can you make
5 sure the line is open? We have had the line open
6 for listening-in mode while the meeting has been
7 held. We'll open up that line.

8 Any comments from individuals in the
9 room?

10 Our line is now open and if there is a
11 member of the public or interested parties out there
12 listening in, could you please identify yourself or
13 just say that you're out there so we know that you -
14 - our line is open for verbal comment?

15 MS. RALEIGH: This is Deanne Raleigh
16 with Curtis Bright. I have no questions. Thank
17 you.

18 MEMBER SCHULTZ: Is there anyone else on
19 the line that does have a comment they'd like to
20 present to the committee?

21 Hearing none, we'll close the comment
22 line. And with that, I'll first ask if there are
23 any additional comments from members of the
24 committee?

25 Hearing none. John, I'll turn the

1 meeting back to you.

2 CHAIRMAN STETKAR: Great, thank you very
3 much. With that, we will recess until 10 a.m.

4 (Whereupon, the above-entitled matter
5 went off the record at 9:42 a.m.)

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ACRS Meeting

Clarifying Relationship Between Mitigating Strategies and Flooding Reevaluations

October 3, 2014

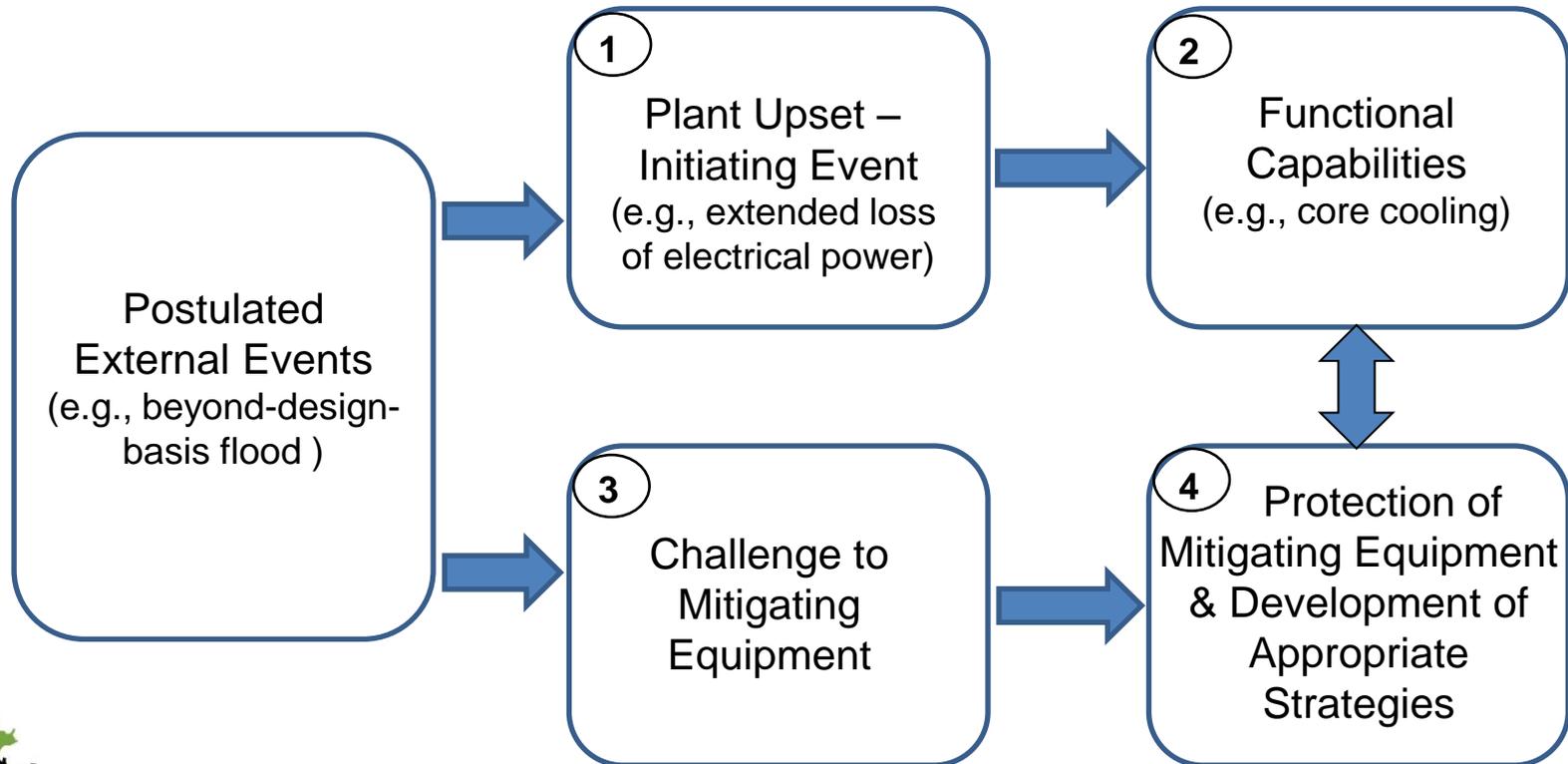


Purpose & Objectives

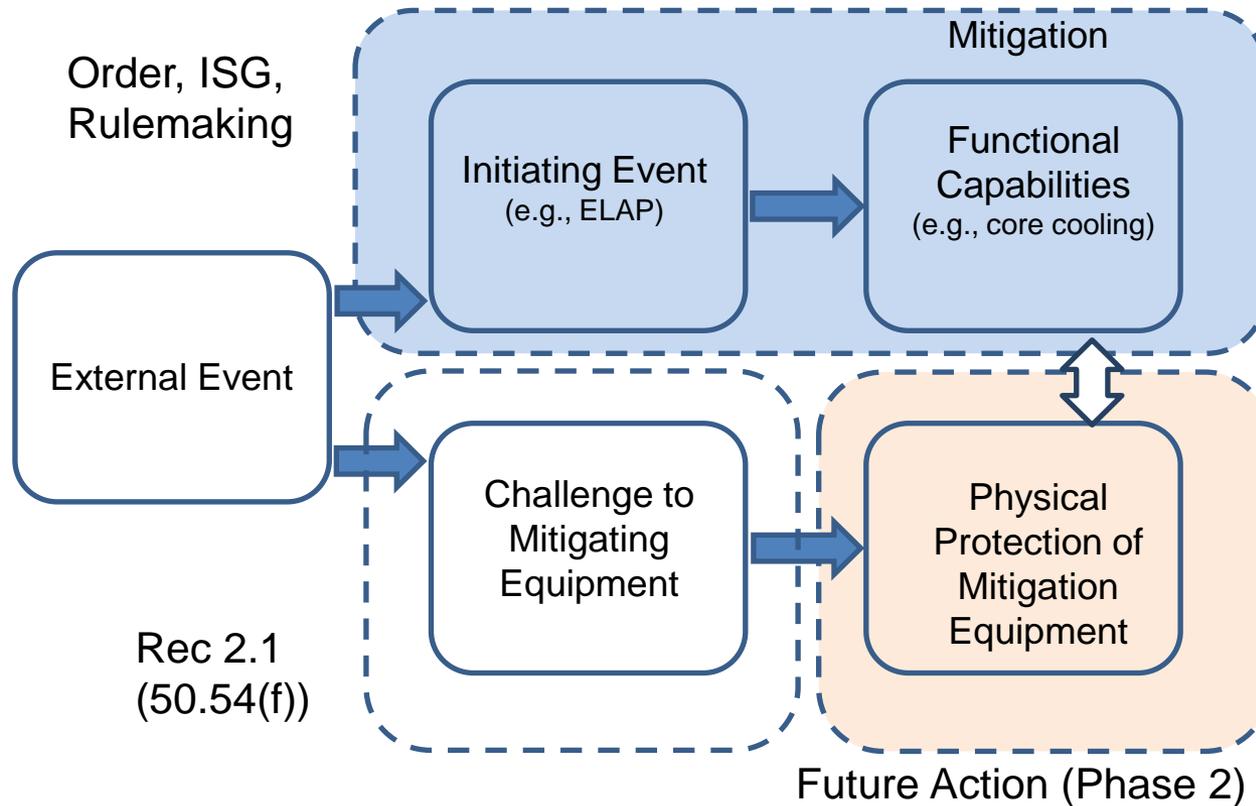
- Describe NRC staff plans to clarify relationship between mitigating strategies and flooding reevaluations
- Describe path forward



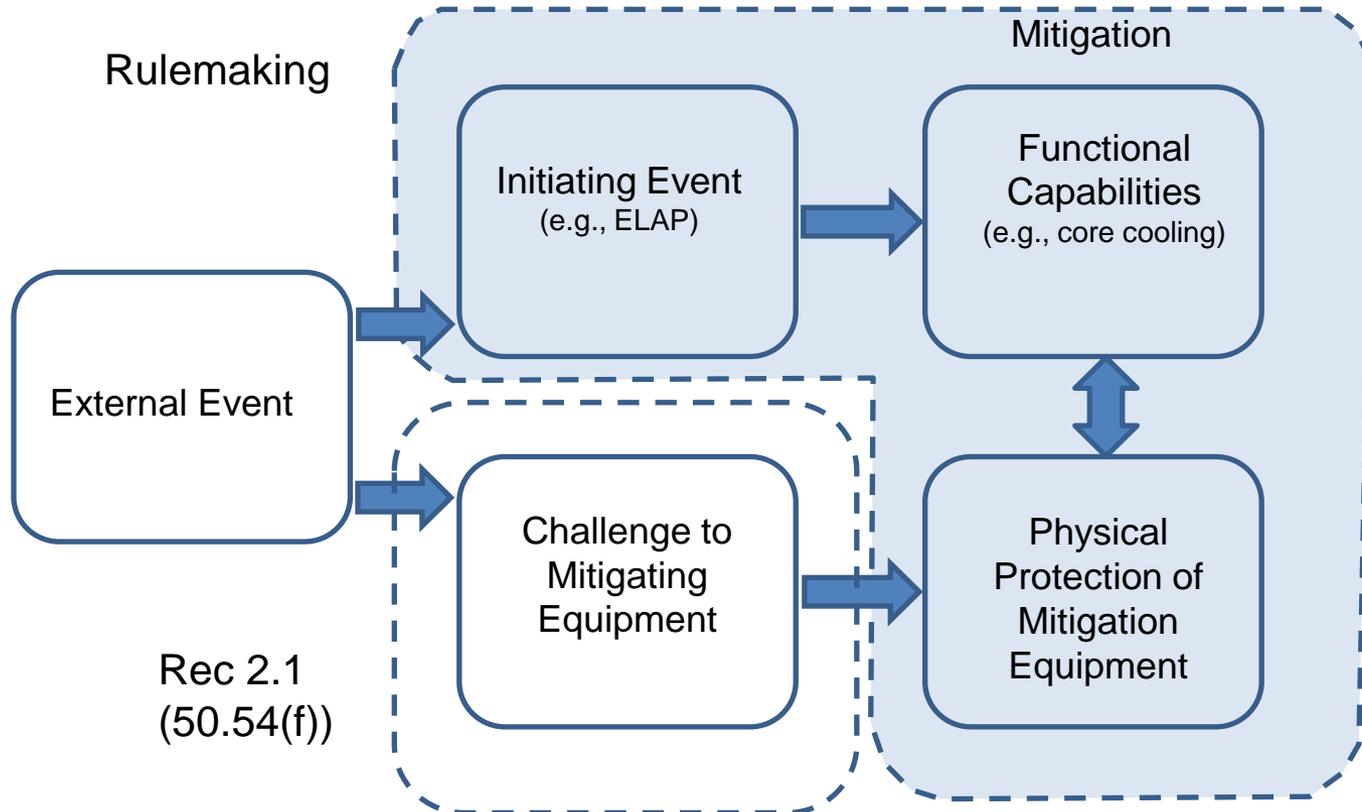
Simplified Representation: Mitigating Strategies for Beyond Design Basis External Events



Background – Possible Regulatory Approaches (1)



Background – Possible Regulatory Approaches (2)



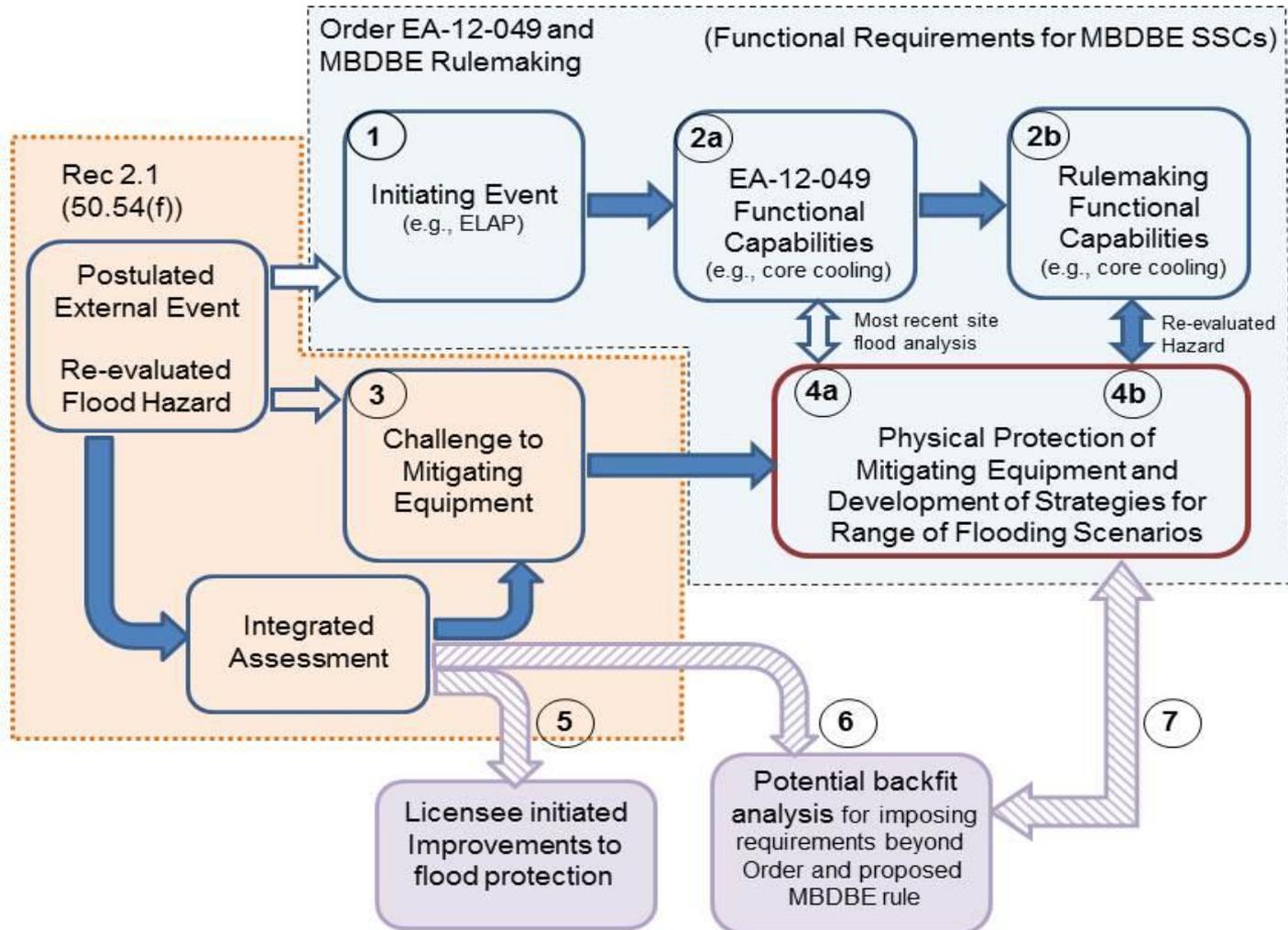
SBOMS Regulatory Basis (July 2013)

Preferred Option was reflected in SBOMS Regulatory Basis Document

Since the purpose of the SBOMS [Station Blackout Mitigating Strategies (SBOMS) now referred to as MBDBE] rulemaking would be to provide mitigation capability for extreme external events, information from NNTF Recommendation 2.1 regulatory activities or other re-evaluations of site-specific hazards would be relevant and need to be addressed and could result in changes to the facility. These changes could include changes to: installed equipment; portable equipment; portable equipment connections; and/or guidance and strategies. Consistent with Order EA-12-049 and related regulatory guidance, it is expected that the SBOMS rule would contain requirements to maintain the SBOMS capabilities, including the protection afforded the equipment consistent with any updated hazard analyses. The supporting SOC and regulatory guide would indicate that the meaning and intent of this provision would be to ensure that new information or operating experience feedback (e.g., new information about a re-evaluated hazard) that impacts the SBOMS equipment and strategies would need to be addressed, and the SBOMS strategies and equipment protection would be updated accordingly.



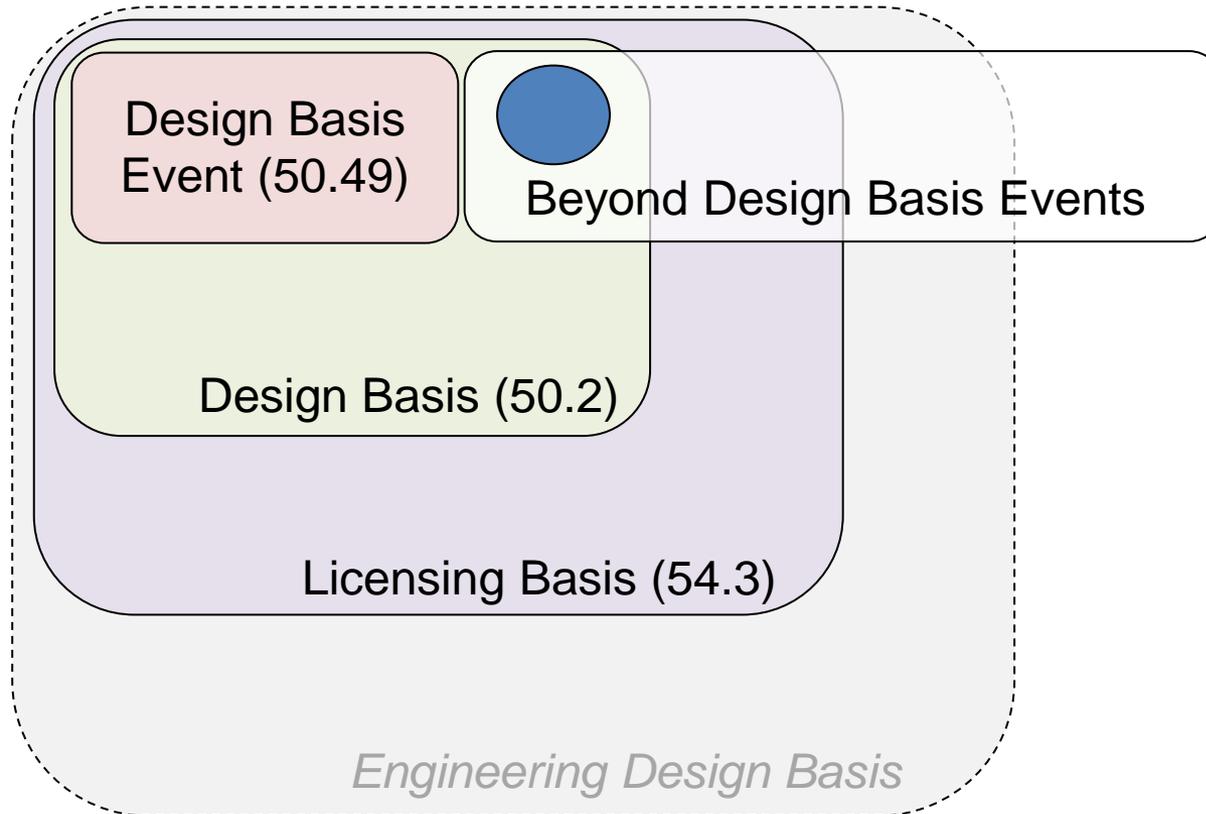
Proposed Flowchart



Discussion

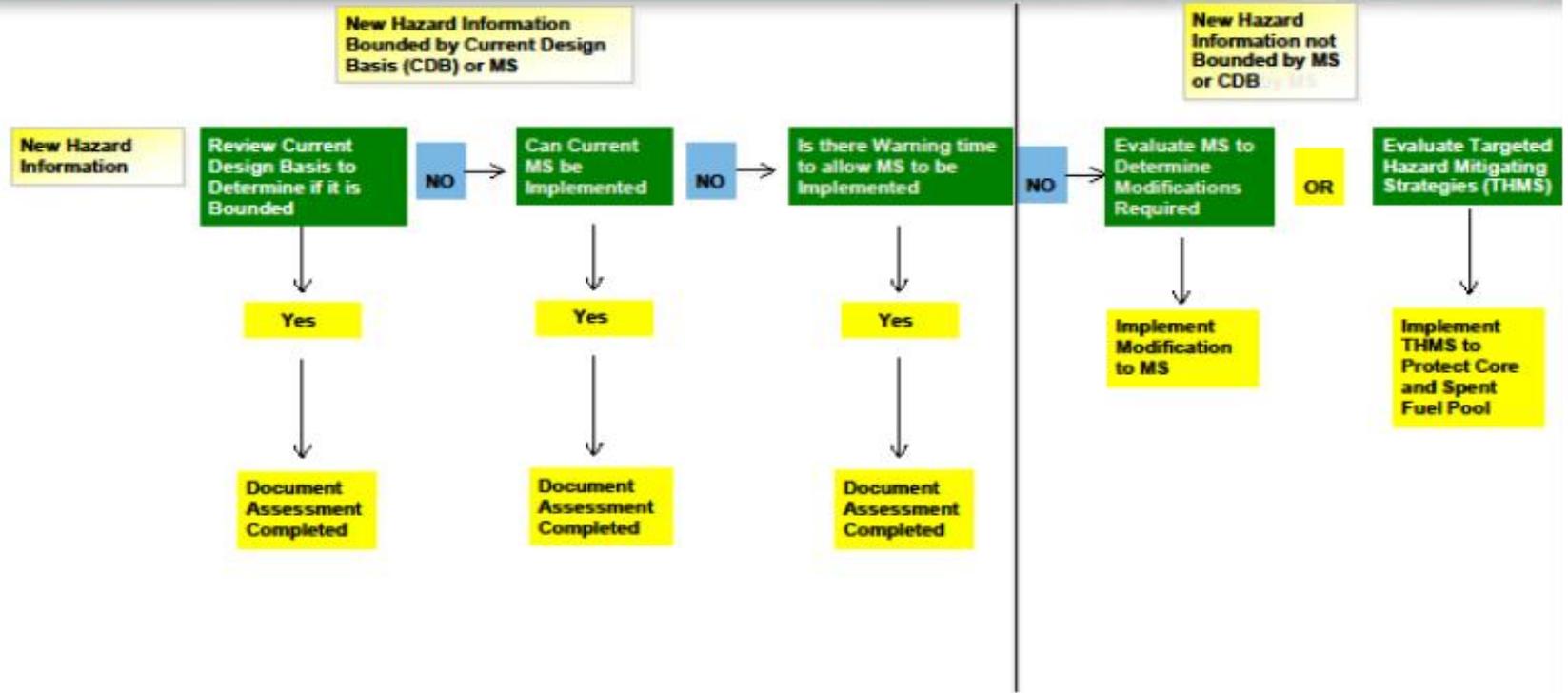
From July Meeting & Draft Paper

- Clarification of Terminology



Industry Presentation

Mitigating Strategies New Hazard Assessment (MS)



Relationship Summary

- At a minimum, additional capabilities for dealing with the beyond-design-basis flooding scenarios identified from the Recommendation 2.1 activities will be provided by the requirements for improved mitigating strategies
- Reduces need for a broader assessment of the plant response as described in current plans and guidance for integrated assessments
- There is a possibility that circumstances at some nuclear power plants may warrant the NRC considering additional assessments and requirements

Next Steps

- *Joint Steering Committee Meeting (23 Sept)*
- *Consideration of insights from meeting*
- *ACRS Meeting (3 Oct)*
- Revising COMSECY
- Issuance of COMSECY – TBD (near future)
- Meetings to discuss revisions to guidance documents – TBD
- Ongoing Activities (12-049 Implementation, flooding evaluations, MBDBE rulemaking, other hazards, etc.)

