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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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OFFICE OF NUCLEAR REACTOR REGULATION

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PUBLIC MEETING TO DISCUSS THE NEED FOR A RULE FOR RISK
INFORMED DECOUPLING OF ASSUMED LOSS-OF-OFFSITE POWER
FROM LOSS-OF-COOLANT ACCIDENT ANALYSIS

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TUESDAY, JUNE 28, 2016

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ROCKVILLE, MARYLAND

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The Public Meeting met at the Nuclear
Regulatory Commission, One White Flint North, Room
O-9B4, 11555 Rockville Pike, at 1:01 p.m., Robert Beall,
Senior Project Manager, presiding.

NRC STAFF PRESENT:

ROBERT BEALL, Senior Project Manager, NRR

STEPHEN DINSMORE, NRR

DANIEL DOYLE, NRR

VIJAY GOEL, NRR

STEVEN LAUR*, NRR

CHRISTIAN LEATHERBURY, Office of Administration

OLIVIA MIKULA, Office of General Counsel

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GARY MIZUNO, Office of General Counsel

DIEGO SAENZ, NRR

PUBLIC PARTICIPANTS:

JANA BERGMAN*

BILL CATULLO*

GARY DARDEN*

VIRGILIO ESQUILLO*

KIRK FALIG*

LISA GERKEN*

GREG HILL*

YOUNG JO*

BOB KERR*

DANA KNEE*

MARVIN LEWIS*

TAEYONG SUNG*

MIKE TSCHILTZ

MARK WISHART

*Present via telephone

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P R O C E E D I N G S

1:01 p.m.

OPERATOR: Welcome and thank you for standing by.

At this time, all lines are in listen only mode. I will now turn the call over to our first speaker today, Mr. Beall.

You may begin.

MR. BEALL: Thank you.

Good afternoon everyone. I'd like to thank all of you for your interest in today's public meeting.

My name is Bob Beall and I'm the Project Manager for the Risk-Informed Decoupling and Assumed Loss-of-Offsite Power, or LOOP, from a loss of coolant accident, a LOCA analysis, or as we call it, the LOOP LOCA Rule and the related Petition for Rulemaking, PRM-50-77.

I will be also acting as today's facilitator for today's meeting. My role will be to try to make this meeting as productive for everyone involved.

At today's meeting, we will be going -- we will be focusing on the need for a LOOP LOCA Rulemaking.

The goal of the LOOP LOCA Rule is to

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1 risk-inform the emergency core cooling system, or ECCS,
2 function of reliability requirements and general design
3 criteria 35, which is the emergency core cooling of
4 Appendix A to 10 CFR Part 50 and, thus, relax the current
5 analysis requirements for considering a LOOP to occur
6 coincident with a large break LOCA.

7 Before I get going any further, I want to
8 make sure everyone can hear me.

9 MALE PARTICIPANT: Hello, if the line's
10 unmuted, there's two people in the lobby --

11 OPERATOR: Your line is open.

12 MR. BEALL: Okay.

13 MALE PARTICIPANT: Okay. So, I think I
14 can hear on the line.

15 There's two people down in the white front
16 lobby.

17 MR. BEALL: Okay. Okay, we'll take care
18 of that right now.

19 Okay, before we get into the main topic, I
20 have to go over a few logistics.

21 For those participating via the bridge
22 line, there will be designated points during the
23 meeting, you will be invited to ask questions.

24 We have a number of people participating
25 today by phone, so I'm going to do my best to allow

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1 everyone to participate in this meeting fully.

2 I will try to make sure that everyone can
3 follow the discussion as well as having time to speak
4 and ask questions.

5 I will also like to ask those on the phone,
6 if you could please mute your phones to minimize any
7 background noise during the meeting.

8 I'm going to ask speakers here, both in the
9 room as well as the phone to please identify themselves
10 and any group they are in when they speak so everyone
11 knows who is talking today.

12 The purpose of this meeting is to receive
13 feedback on the need for a LOOP LOCA Rulemaking.

14 The staff initially sought industry
15 perspective from NEI via a phone call on May 12th, 2016.
16 Before substantial discussions were had, the NRC staff
17 decided to hold a public meeting, which we're doing
18 today, in which NEI and all other interested
19 stakeholders could voice their opinions regarding this
20 rulemaking.

21 Today's meeting is a Category 3 public
22 meeting, which means that the public participation is
23 actively sought in the discussion of the regulatory
24 issues.

25 This meeting is not designed nor intended

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1 to solicit or receive comments on topics other than the
2 need for this rulemaking activity.

3 Also note, no regulatory discussions --
4 excuse me -- decisions will be made at today's meeting.

5 This meeting is scheduled to last from 1:00
6 p.m. to 2:00 p.m. today. Once the introductions and
7 logistics are completed, the NRC staff will discuss the
8 history and the current status of the LOOP LOCA
9 Rulemaking and the PRM-50-77 Petition.

10 We will then open the meeting to the public
11 to ask questions and to provide comments on the proposed
12 rulemaking.

13 For those people who are attending in
14 person, we will have a sign in sheet. The list of
15 attendees and on the phone participants will become part
16 of the meeting summary that will be prepared for today's
17 meeting and will be made publically available.

18 Also, a transcript is being recorded of
19 today's meeting and will also be made public.

20 We would appreciate any feedback that you
21 may have that would help us improve our public meetings.

22 If you would like to provide feedback on
23 this meeting, you may email them to me at robert.beall,
24 B-E-A-L-L, at NRC.gov.

25 And, finally, I'd like to ask speakers to

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1 please remember to speak loud enough to ensure that
2 those on the phone can hear you.

3 Those on the phone, if at any point you are
4 unable to hear the meeting discussions, please let us
5 know.

6 If there aren't any other questions on
7 logistics, we'd like to start with the introductions.

8 Okay, we'll start here in the room at the
9 table.

10 Like I said, my name is Robert Beall. I'm
11 a Senior Project Manager at the NRC in NRR and the
12 Project Manager for the LOOP LOCA Rule.

13 MR. DINSMORE: Stephen Dinsmore, Senior
14 Reliability and Risk Analysis in the PRA Licensing
15 Branch in NRR.

16 MR. GOEL: Vijay Goel from NRC NRR. I'm
17 with the Electrical Engineering Branch.

18 MS. MIKULA: Olivia Mikula, NRC Office of
19 the General Counsel.

20 MS. LEATHERBURY: Christian Leatherbury,
21 Regulation Specialist, NRC Office of Administration.

22 MR. DOYLE: Daniel Doyle, I'm a Project
23 Manager in the Rulemaking Branch in NRR and I'm
24 attending on behalf of the Branch Chief.

25 MR. SAENZ: Diego Saenz, Reactor Systems

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1 Engineer in the Reactor Systems Branch in NRR.

2 MR. BEALL: Okay.

3 I'd like to now ask the people on the phone
4 to please introduce themselves and also state any
5 affiliation you may have.

6 Jerry, can you open the lines please one at
7 a time?

8 (Off mic introduction)

9 MR. CATULLO: Bill Catullo, Westinghouse
10 Electric.

11 MALE PARTICIPANT: From Dominion, you have
12 Dana Knee, Kirk Falig and Gary Darden.

13 MR. ESQUILLO: For South Carolina Gas and
14 Electric, Vergilio Esquillo, E-S-Q-U-I-L-L-O.

15 MS. GERKEN: Lisa Gerken from AREVA.

16 MR. SUNG: Taeyong Sung, Southern Nuclear.

17 MR. HILL: Greg Hill from American
18 Electric Power.

19 MR. LAUER: Steve Lauer, NRC.

20 MR. SHARPLINK: Michael Sharplink from
21 Westinghouse.

22 MS. BERGMAN: Jana Bergman,
23 Curtiss-Wright.

24 MR. KERR: Bob Kerr with FENOC.

25 MS. BEALL: Is there anyone else on the

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1 line who hasn't spoken up?

2 (Simultaneous speaking)

3 MR. JO: Young Jo, Southern Nuclear.

4 MR. BEALL: Who was that from the PWR
5 Owners' Group?

6 (Off mic introduction)

7 MR. BEALL: Okay.

8 Okay, and we had two people in the -- who
9 just joined us in the conference room.

10 MR. TSCHLITZ: Mike Tschiltz, NEI.

11 MR. WISHART: Mark Wishart, Jensen Hughes.

12 MR. BEALL: Okay, thank you.

13 All right, can you please close the line?

14 OPERATOR: The lines are now muted.

15 MR. BEALL: Thank you.

16 On March 31st, 2003, in a Staff
17 Requirements Memo, or SRM, to a Commission -- in a staff
18 SECY paper 02-0057, the Commission directed the staff
19 to proceed with the rulemaking to risk-informed ECCS,
20 functional reliability requirements and GDD-35 or to
21 start the LOOP LOCA Rulemaking.

22 In SECY paper, SECY 04-0037 dated March
23 3rd, 2004, the NRC staff proposed review a topical
24 report and Pilot Exemption Request that would be
25 submitted by the BWR Owners' Group to relax the assumed

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1 coincident LOOP required for a LOCA analysis.

2 If found acceptable and approved by the NRC
3 staff this topical report was intended to serve as the
4 technical portion of a regulatory basis for the LOOP
5 LOCA Rulemaking.

6 The Commission approved this proposal in an
7 SRM dated July 1st, 2004.

8 In parallel with the LOOP LOCA Rulemaking,
9 the NRC staff was pursuing a separate rulemaking to
10 risk-inform and redefine the large break LOCA Emergency
11 Core Cooling System or ECCS analysis requirements.
12 This was the 50.46a ECCS Rulemaking.

13 When issued as a final rule, the 50.46a ECCS
14 rule allowed both pressurized water reactors and
15 boiling water reactors to decouple LOOP from a LOCA for
16 a certain break size.

17 In December 2007, the staff informed the
18 Commission that the BWR Owners' Group topical report,
19 or the 50.46a ECCS final rule are not approved, it would
20 be likely -- would be most unlikely that the LOOP LOCA
21 rule would be worth pursuing.

22 In its February 4, 2008 response, the
23 Commission approved the staff request to defer the LOOP
24 LOCA rule rulemaking activities but keep the existing
25 rulemaking open pending their review of the 50.46a ECCS

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1 final rule and the topical report.

2 From 2004 to 2008, the NRC staff and BWR
3 Owners' Group worked to resolve all the issues with the
4 topical report. A number of public meetings were held
5 along with formal requests for addition information
6 from the NRC staff.

7 On June 12th, 2008, the BWR Owners' Group
8 withdrew the topical report from further NRC review and
9 discontinued their effort, stating that "if ultimately
10 approved in the form presently desired by the NRC staff,
11 adoption by the licensees would most likely be
12 prohibitively expensive."

13 The NRC staff notified the Commission of
14 the withdrawal of the topical report and the staff
15 planned to reassess the need for the LOOP LOCA rule on
16 December 19th, 2008.

17 In SECY paper SECY 09-0140 dated September
18 28th, 2009, the NRC staff recommended that the
19 Commission discontinue the LOOP LOCA Rulemaking.

20 The staff recommendation was based on a
21 lack of a fully developed regulatory basis and if one
22 was developed, it would not be expected to result in a
23 quantifiable safety improvement.

24 On July 2nd, 2010 in the SRM to the SECY
25 09-0140, the Commission, once again, directed the staff

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1 to defer the LOOP LOCA Rulemaking until the 50.46a ECCS
2 Rulemaking was implemented.

3 On January 31st, 2016, in SECY 16-009, the
4 NRC staff provided the results of a re-baselining of the
5 Agency's activities and requested the Commission's
6 approval to implement recommendations on a work to be
7 shed, de-prioritize -- easy to say -- and perform -- or
8 perform with fewer resources.

9 In this SECY paper, the staff recommended
10 that the 50.46a ECCS Rulemaking activities be
11 discontinued.

12 In its SRM dated April 13th, 2016, the
13 Commission approved the staff recommendation to
14 discontinue the 50.46a ECCS Rulemaking.

15 Also, along with the LOOP LOCA rule, on May
16 2002, the NRC received a Petition for Rulemaking, or PRM
17 related to this topic.

18 The Petition was docketed as PRM-50-77 in
19 June 2002 and requested that the NRC amend its
20 regulations to Appendix A to 10 CFR Part 50 to eliminate
21 the requirement to assume a LOOP coincident with the
22 postulated access.

23 The Petition was resolved by the decision
24 to consider this issue within the LOOP LOCA Rulemaking
25 activity, but the Petition remained open because of

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1 ongoing developments related to this rule.

2 However, in late 2007, the NRC made changes
3 to the PRM process to disposition PRMs.

4 As a result, the NRC closed this Petition
5 in April 2009, but it further wrote a Notice to follow
6 through with the original resolution to continue to
7 consider the PRM within the LOOP LOCA Rulemaking.

8 In support of the LOOP LOCA Rulemaking, the
9 NRC staff has performed some work on a number of
10 technical areas, including LOCA frequency estimates and
11 conditional probability of LOOP given to LOCA.

12 As part of this work, the NRC identified a
13 number of areas of uncertainty associated with
14 estimating the conditional probability of a LOOP given
15 concurrence with a LOCA.

16 With the withdrawal of the BWR Owners'
17 Group topical report in 2008, the NRC staff would need
18 to further develop these areas of uncertainty in order
19 to complete a regulatory basis for the LOOP LOCA
20 Rulemaking.

21 So, that provides a very high overview of
22 the history of the LOOP LOCA Rulemaking we've done so
23 far and its related PRM.

24 So, at this time, I would like to ask -- to
25 offer members of the public and other stakeholders the

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1 opportunity to provide us with input or ask questions.

2 I would like to first open the floor to the
3 space in the room and then on the phone.

4 Okay, Jerry, can you go ahead and open the
5 phone lines, please?

6 OPERATOR: At this time, all phone lines
7 are open.

8 MR. BEALL: Is there any feedback on the
9 need for the LOOP LOCA rule or are there any questions
10 about what we've done in the past?

11 MR. TSCHLITZ: Well, I think one of the
12 things they --

13 MR. BEALL: Please say your name, please.

14 MR. TSCHLITZ: This is Mike Tschiltz, NEI.

15 I think one of the things the industry is
16 interested in is determining is how much work the NRC
17 believes this is going to entail?

18 A lot of effort was put into this quite a
19 while ago and then nothing ever became of it because of
20 a number of different reasons.

21 So, I think people are looking at the degree
22 of analysis, what all is going to be required to be able
23 to move forward with this?

24 So, I think we were looking at this meeting
25 is getting some kind of indication as to what the staff

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1 saw would be necessary to be able to move forward with
2 this?

3 I think, that being said, I think the basis
4 or rationale for the Petition to fix the rule is still
5 sound reason for changing the rule. I think we believe
6 the rule should be changed. The question is whether or
7 not there's going to be -- the analysis is going to be
8 so burdensome that people wouldn't want to take
9 advantage of the approved.

10 MR. DINSMORE: Yes, hi, this is Steve
11 Dinsmore from the staff.

12 I guess Steve Lauer could kick in if he
13 thinks of something.

14 As I recall, I was one of the ones that was
15 working on this at that time with Steve Lauer. And, I
16 think there was a couple issues that kind of were on the
17 table, and this was just my recollection, and one of them
18 was a delayed LOOP, that there was some concern -- you
19 didn't get a simultaneous one, but you might have gotten
20 a delayed one.

21 And, there was some question about the
22 effect of delayed LOOP on the plant itself.

23 There was another question about, if you --
24 I think as some point in time, there was an assumption
25 that said if you got the LOOP and LOCA, you'd go directly

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1 to core damage. And, the numbers might have worked out,
2 but if you had to assume you went directly to LERF, the
3 numbers were less advantageous or a little more
4 difficult to deal with.

5 And, those are actually the only two issues
6 that I remember. I think it was during those
7 discussions -- this was the BWR Owners' Group topical
8 I think we were talking about.

9 It was during those discussions that those
10 type of issues that the BWR Owners' Group wrote their
11 letter.

12 MR. BEALL: Right.

13 MR. DINSMORE: Did they say in the letter?
14 They just said prohibitively expense, right?

15 MR. BEALL: Right.

16 MR. DINSMORE: But, those are the two that
17 I remember that we were talking about.

18 MR. TSCHLITZ: So, I don't know if Bob or
19 Cheryl or Roy Linthicum have any comments on that?

20 MR. LINTHICUM: This is Roy.

21 That was a bit before my time with the BWR
22 Owners' Group, but I can understand why they had to make
23 those assumptions, but do consider (telephonic
24 interference).

25 And that, if they had to have expensive

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1 analysis of (telephonic interference) under those
2 conditions, I can say that the -- I could say (telephonic
3 interference) mentioned it being prohibitively
4 expensive.

5 MR. LEWIS: The last speaker was almost
6 unintelligible.

7 MR. LINTHICUM So my cell phone reception
8 is pretty bad where I'm at right now.

9 MR. DINSMORE: So, this is Steve Dinsmore
10 again.

11 So, it's a little difficult say, that was
12 kind of where the discussions tailed off.

13 MR. BEALL: This is Bob Beall of the NRC.

14 We would basically have to go back and
15 re-look at all those analysis again from, you know, 2004
16 to 2008 again. And so, yes, that would be a lot of work
17 for the staff and probably for the industry also to go
18 back and re-look at that on the today's requirements.

19 MR. TSCHLITZ: This is Mike Tschlitz of the
20 NEI.

21 I think, just looking at the BWR topical
22 report that was submitted back in the 2006 time frame,
23 they went back and revised it to deal with the coincident
24 or the sequencing, the double sequencing issue with the
25 LOOP LOCA.

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1 So, the report, I mean, there's ongoing
2 interactions at that time, as you recall, about double
3 sequencing. And, I think the report was revised to
4 address that. I don't know whether -- I think that was
5 submitted to the NRC, I don't know if the NRC ever
6 reviewed it. I don't have that piece of history either.

7 MR. DINSMORE: Yes, I can't remember
8 whether that was submitted before the withdrawal
9 request or after or -- I don't remember the timing very
10 much either.

11 There was a lot a brief discussion about
12 having the plants put in one of these VARS (phonetic)
13 things, whatever that is, to measure in real time the
14 stability of the offsite grid.

15 Again, I'm just trying to remember things
16 and you wanted to know kind of what was going on.

17 But, as Bob said, if you really want a list,
18 then we'd have to go back and then dig through things
19 and I think before we were going to do that, we wanted
20 to know whether it was even worth digging back through
21 all this stuff.

22 MR. BEALL: Yes, I mean, we have just
23 nothing going on in this rulemaking. Like I mentioned
24 earlier that the Commission had asked us, you know,
25 defer the LOOP LOCA Rulemaking, so there's really

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1 nothing that's been going on for a number of years
2 because we're waiting on the 50.46(a) rule to be issued.

3 But, as I mentioned, the Commission has
4 directed the staff to discontinue that rulemaking
5 effort. So, now, that rulemaking has been closed. Is
6 there any interest in possibly pursuing this rulemaking
7 going forward?

8 Is the industry still interested in
9 decoupling LOOP LOCA and to what extent? Because we
10 would have to go back and basically almost start from
11 scratch looking at what you guys did back, you know, that
12 2002, 2004 to 2008 time period would probably be our
13 starting point and going forward.

14 MR. MIZUNO: So, this is Gary Mizuno, NRC
15 Office of General Counsel.

16 So, my recollection is that where we stood
17 is that the staff was really focusing on delayed loss
18 of offsite power. And, while the staff felt that there
19 was a safety concern, I think that there was a -- the
20 industry was not convinced of that.

21 And so, we -- at the time that this thing
22 was put on hold, I think it's fair to say that industry
23 was engaging with the staff over what amount of
24 information would be needed to demonstrate that -- the
25 delayed LOOP was not important.

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1 And then, subsequently, you know, things
2 got sort of overtaken by 54.60(a) which was seen as a
3 more important rule.

4 And then, again, I mean, to be -- if you want
5 to step back, I think that overall the industry and the
6 staff were stumbling over basically the same thing which
7 is how do you deal with a risk-informed
8 de-powerification? And how big of a PRA is going to be
9 needed?

10 You know, and we stumbled over the same
11 issue again in NTTF Recommendation 1 that ultimately
12 went to the RMRF.

13 Yes, and so, fundamentally, I think that
14 the question is not so much LOOP LOCA oriented, but given
15 the past history of the continuing industry versus NRC
16 divide as to how are you going to justify moving forward
17 with an overall integrated risk-informed approach?

18 Is it useful to continue dealing with this
19 very specific issue of LOOP LOCA or do you want to step
20 back and does the industry want to continue given that
21 you've told us in RMRF space and NTTF space that you
22 don't want it to be mandatory.

23 And, it's going to be -- and you want it to
24 be optional and that, in fact, the value of doing these
25 things may be even further being lessened given the

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1 number of plants that are no longer going to be operating
2 in the near future, well, within the next five or six
3 years.

4 So, I think that's where we're trying to get
5 some kind of feedback from the industry, not just
6 looking at this specific LOOP LOCA thing, but in the
7 context of saying, the LOOP LOCA matter demonstrated
8 that there was just a -- there were broader issues
9 involved in using a risk-informed approach in dealing
10 with the regulatory requirements in general.

11 And, we've engaged over this long period of
12 time, we don't seem to be getting any closer to something
13 that you folks feel is efficient and effective use of
14 your resources.

15 And so, I guess the question is, if you're
16 satisfied with the existing approach, especially given
17 the lengthy future of the industry, is it an appropriate
18 thing for us, for the NRC to discontinue any further work
19 on LOOP LOCA?

20 I mean, that's the way I would characterize
21 this what we're looking for from the industry.

22 MR. TSCHLITZ: Right, so this is Mike
23 Tschlitz, NEI.

24 I don't think I would attach the RMRF. In
25 industry's views on RMRF and NUREG 2150 to this issue

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1 because that was a more overarching issue about how to
2 risk-inform regulations to have an enabling regulation
3 that would allow risk-informing different activities.

4 So, I mean, the industry saw very slow
5 progress on that and it being very cumbersome and we saw
6 little opportunity based upon the things that were
7 identified that could be used or that new rulemaking
8 could be applied to.

9 So, based upon the rate of progress and the
10 options that -- or potential options that were
11 identified, there didn't seem to be much sense in moving
12 forward with the risk management regulatory framework.

13 And that, it would be more beneficial to
14 pursue rulemaking like this where we had a specific
15 objective in mind. And, you know, I think that the
16 industry was kind of interested before being able to
17 give you some meaningful feedback on this as to where
18 you were headed with this, what you thought needed to
19 be done.

20 On the industry's part, beyond what the
21 Petition that was submitted before and the work that's
22 already been done and out there, you know, what's the
23 starting point? What is left? What are the
24 controversial issues that need to be addressed?

25 So, I recognize that's probably a challenge

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1 for the people in this room because the amount of time
2 that's elapsed and most of you probably weren't involved
3 with it at the time other than Steve.

4 So --

5 MR. DINSMORE: And myself.

6 MR. BEALL: And Gary. I've only had 45
7 days, so --

8 MR. DINSMORE: So, we wanted to know how
9 much interest you have before we started the work and
10 what we hear is you want to know how much work it's going
11 to be before you could tell us something.

12 MR. TSCHLITZ: Yes, I think people believe
13 there's potential benefit associated with it, the same
14 benefit that was identified when the Petition was
15 submitted.

16 But, the big uncertainty is -- out there is,
17 you know, what are the technical issues that remain? I
18 don't know where you stand with regard to review of the
19 BWR topical report that was submitted on this and
20 whether, you know, what the status of that is as far as
21 review or whether the Owners' Group even wants you to
22 review it or whether there's a fee waiver associated
23 with the review of this.

24 So, there's a lot of different issues out
25 there I think that need to inform how we move forward

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1 on this. I mean, hopefully, this meeting will help at
2 least identify those issues so we know where to go back
3 and get more information to be able to continue.

4 MR. GOEL: I think one of the issues you
5 discussed, you want to know what the cost-benefit would
6 be, right?

7 MR. DINSMORE: Yes, we would -- something
8 we also need, too, part of our justification going
9 forward is, we don't have a lot of information about what
10 the true benefits to the industry?

11 I mean, looking at the reports that I could
12 dig up out of ADAMS and places like that, is -- hasn't
13 been a lot of regulatory analysis done on this topic,
14 probably at all. I can't find anything.

15 And so, if we could get some information on
16 what the benefits would be, that would help us, you know,
17 possibly justify something for the Commission.

18 MR. MIZUNO: Yes, Bob, I think we're --
19 like I said, I think where we were stumbling over in the
20 past was actually on the cost side in some sense because
21 the industry objection to this going forward in the way
22 that the staff out to go to was focused on the analytical
23 approach for evaluating LOOP LOCA, as I recall.

24 And so, it kind of mirrored the same kind
25 of concerns that the industry had with respect to

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1 50.46a, you know, which was the TBS rule, the ECCS
2 transition break size rule.

3 And, again, you know, it was all bound up,
4 like I said, you keep having the same issues coming up
5 with respect to what is needed to evaluate the safety,
6 the risk of this? How are we controlling changes? How
7 are you going to evaluate them? And the cost associated
8 with that?

9 I think that's where we -- that was a large
10 part of the conversation.

11 And, then that, like I said, got sort of
12 suspended when 50.46a was going forward temporarily
13 because we thought that that was going to be more
14 effective in dealing with those things because it was
15 a boarder application.

16 MR. BEALL: Yes, we could -- 50.46a would
17 have decoupled the LOOP from LOCA, at least above the
18 transition break size.

19 MR. MIZUNO: Right, and so that could have
20 -- that would have effectively taken away a large part
21 of the need for the LOOP LOCA rule because that's
22 primarily where you're going to have most of your
23 problems. It's that large LOCA and the power
24 associated with that with which you're going to rely
25 upon the offsite power, as I understand it.

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1 So, if you're able to say, hey, I don't need
2 to deal with that or I can do it with something using
3 -- I can deal with it using less stringent assumptions,
4 less stringent requirements than the LOOP LOCA issue.
5 I want to say it would go away, but would become of much
6 less significance in terms of industry concern about
7 being able to comply with it.

8 MR. DINSMORE: Yes, and this is Steve
9 Dinsmore again.

10 I guess you want to know the cost. I don't
11 -- I personally am not aware of anything that might have
12 changed, for example, some new methodology or some new
13 piece of information.

14 There might be, but I'm not aware of any
15 that would have kind of changed where we were at that
16 time. So, if it says in that letter it would be
17 prohibitively expensive to implement as the staff
18 wants, you know, I'm not sure -- I don't know what the
19 staff wants today, but at that -- I don't know of
20 anything that has substantively changed in the interim.

21 I don't know if industry is aware of
22 anything that's changed in the interim.

23 MR. GOEL: Steve, doesn't the -- another
24 issue that exists is we cannot apply to like generic or
25 old plant, it has to be plant specific or something like

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1 that?

2 MR. DINSMORE: Yes, that was another one of
3 the issues we were talking about.

4 MR. BEALL: But the PRA had to be -- this
5 is Bob Beall -- the PRA had to be plant specific and not
6 --

7 MR. DINSMORE: Yes, the analysis had to be
8 plant specific. And the likelihood that the delayed
9 LOOP or double sequencing, whatever you call it, had to
10 be plant specific.

11 MR. MIZUNO: Yes, that is my recollection
12 as well.

13 MR. DINSMORE: Yes.

14 MR. MIZUNO: Because every plant is in a
15 different region and that the reliability of the grid
16 was felt to be different depending upon where the plant
17 was located.

18 This is Gary Mizuno, OGC again.

19 MR. BEALL: Are there any more questions or
20 comments?

21 MR. LEWIS: My name's Marvin Lewis, a
22 member of the public. May I speak now?

23 MR. BEALL: Sure, Marvin, go ahead.

24 MR. LEWIS: I want to ask a question.

25 MR. BEALL: Sure, go ahead, Marvin.

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1 MR. LEWIS: Thank you.

2 Look, loss of offsite power and you're
3 trying to decouple it from a loss of coolant accident.
4 My question is this, isn't this just what happened at
5 Fukushima? There was a loss of offsite power due to a
6 tsunami and then, subsequently, there was a lack of
7 coolant because -- I'm still at work, of course, as is
8 I don't see it being decoupled there, why would it be
9 decoupled at other places? I mean, I'm at a loss.

10 MR. DINSMORE: Yes, this is Steve
11 Dinsmore.

12 I guess the Fukushima was really a loss of
13 offsite power that just continued and continued and was
14 continuous and it was a loss of onsite power.

15 This would be more of a large loss of
16 coolant accident that pulls down the plant and which
17 subsequently could pull down the grid. That's the way
18 we look at this.

19 So, we were kind of looking at this loss of
20 offsite power per se that could cause a loss of onsite
21 power is a completely different -- or it's an issue
22 that's being addressed in other forms in this.

23 So, this is really mostly looking at the
24 plant preservation that can propagate out onto the grid
25 and how much protection we need against that type of

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1 scenario.

2 MR. LEWIS: I think that sounds awfully
3 artificial. You're trying to separate things into
4 different categories that are artificial and I don't
5 agree with it.

6 Thank you.

7 MR. DINSMORE: Okay.

8 MR. BEALL: So, do we need to have another
9 public meeting then? Do we have to go back and do some
10 homework?

11 MR. DINSMORE: If industry really wants to
12 know what the issues are and where we stand precisely,
13 then yes.

14 MR. BEALL: Okay.

15 MR. TSCHLITZ: Yes, I mean, to me, I think
16 we need to frame the meeting in a different way with the
17 list of questions you want people ready to answer. I
18 mean, because this meeting was kind of a blind spot to
19 us. We knew that you wanted to have a meeting about LOOP
20 LOCA.

21 Dick Dudley originally reached out to me
22 and I called him, he was leaving. So, I haven't been
23 able to really get a lot of information in advance of
24 this meeting from Bob about what it needed to cover.

25 So, the meeting, from my perspective, was

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1 to learn what the NRC is thinking so we can go back and
2 get better input from the industry about what whether
3 there's real interest from BWR Owners' Group or whether
4 there's interest from any other specific utilities or
5 not.

6 So, and I recognize, Bob, you're challenged
7 if you've only been here for 45 days, it's probably a
8 new -- something all new for you, too.

9 MR. GOEL: I think our thing really was
10 going to the money part and they just is willing to spend
11 the money.

12 MR. DINSMORE: Yes, I guess we wanted to
13 know if you thought there was enough of a benefit that
14 you really wanted to proceed.

15 MR. BEALL: Right, yes, because, you know,
16 looking at, at least the documents I could find, is that
17 it looked like, at least, the main reason the topical
18 report was pulled was that, at least the way the staff
19 was approaching it, it didn't make economic sense for
20 the facilities to pursue this. Okay?

21 And, that was part of the reasons we sent
22 papers to the Commission, you know, saying we should
23 defer this or, well, maybe we can do something by
24 incorporating it as part of the LOOP LOCA rule, at least
25 for above the transition break size.

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1 And so, but now that that whole rulemaking,
2 the 50.46a rulemaking is no longer a pathway to do the
3 LOOP LOCA rule, at least partially it is, then we're back
4 to saying is there still any need or interest in this
5 rulemaking now going forward?

6 Because, you know, it's been a long time
7 since we've looked at the justifications because, you
8 know, 2008 is when the topical report was pulled.

9 And so, do we -- is there any interest in
10 still in this rulemaking for going forward?

11 MR. CATULLO: Well, there is another
12 benefit.

13 This is Bill Catullo from Westinghouse.

14 MR. BEALL: Hey, Bill.

15 MR. CATULLO: There is another benefit to
16 decoupling these two and it has to deal with when you
17 install a digital I&C system and you do your
18 NUREG/CR- 6303 diversity and defense in depth analysis,
19 and large break LOCA in coincidence with a LOOP,
20 coincidence with a software common cause failure, it's
21 very incredible event, but it's very difficult having
22 the LOOP and the LOCA to show some kind of diversity.

23 And, since you're no longer allowed to use
24 risk insights for digital I&C after the last round of
25 interim staff guidance, it makes it to the point where

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1 installing a digital I&C system, for example, a diesel
2 sequencer, very expensive, if not next to impossible.

3 MR. DINSMORE: Yes, this is Steve
4 Dinsmore.

5 I guess so, you're saying the digital I&C
6 would be a lot less expensive to install if you were able
7 to separate the two?

8 MR. CATULLO: If I just look at diesel
9 sequencers, which, if you look across the industry, a
10 lot of those were installed by AEs, a lot of them are
11 different.

12 And, when you go in and try to do a diversity
13 and defense in depth, the large break LOCA in
14 coincidence with the LOOP even using relaxed
15 requirements is impossible.

16 And, one unit that had done it in the U.S.
17 prior to interim staff guidance actually used risk
18 insights to show that that wasn't an incredible event,
19 those two together along with a software common cause
20 failure.

21 And that was taken out of Branch Technical
22 Position 19 -- 719 as a result of that.

23 So, right now, you're almost forced to use
24 two diverse systems to cover that because of that. And,
25 that's a very unlikely event.

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1 MR. DINSMORE: And, how about the double
2 sequencing? Is that easy or harder to evaluate?

3 MR. CATULLO: When you say double
4 sequence, you mean delayed, right?

5 MR. DINSMORE: Delayed, right.

6 MR. CATULLO: Yes, well, the delayed
7 sequencing, I guess the question there is, is what's the
8 delay?

9 You know, with -- are we talking minutes to
10 cause the grid instability or are we talking, you know,
11 30 minutes after? It makes a big difference.

12 So, that's certainly a question.

13 MR. MIZUNO: This is Gary Mizuno.

14 My recollection was that, again, this -- my
15 recollection of what the staff was telling me at the time
16 was that the delay that was of concern was the LOOP
17 occurring seconds, like 10 seconds to 30 seconds after
18 the LOCA began.

19 Because you had the great startup draw on
20 the power system by the pumps. And then you all of a
21 sudden lost that offsite power which, of course, has a
22 lot of capability. And now, you're going to be having
23 to draw upon the diesel generators. They have to --
24 there's a time period for them to start up and then be
25 put on to the BUS and I think that was the main issue.

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1 MR. DINSMORE: Yes, and there was
2 questions whether you -- the sequence that got stopped
3 in the middle and then the heat up to the pump wirings
4 that the big pumps that have got to start and stop and
5 start.

6 So, that was a --

7 (Simultaneous speaking)

8 MR. GOEL: -- and also causing water in
9 effect.

10 MR. MIZUNO: So, yes, I would agree that,
11 if you were talking about 30 minutes and stuff, there
12 shouldn't be any problem, but it was, like I said, I
13 think it was seconds, I think it was second.

14 MR. CATULLO: So, if you look at, and I
15 don't know of all the sequencers, but if you look at some
16 of the first loads that come on which are the big ECC
17 pumps. Okay? Those cores in those motors would then
18 be saturated.

19 So, if there was a disruption, I guess then
20 when the diesels would have come online already, right,
21 and but they wouldn't have connected to the BUS. So,
22 a lot of those motors would have been up and running and
23 then the diesel would have been up to speed if it's, you
24 know, 10 seconds.

25 I don't know if people considered that.

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1 And then, the diesel could connect to the BUS while pumps
2 were previously running and I don't know, you know, the
3 sequence where we'd go back and start putting those on,
4 but I guess I don't -- without doing like an ECAP
5 analysis, I don't know what that would do.

6 But, to me, I know the pump cores, you know,
7 stators and all that stuff would have been saturated and
8 it wouldn't have been as big as an in rush as people might
9 expect.

10 MR. DINSMORE: Yes, this is Steve
11 Dinsmore.

12 We don't really have the electrical
13 engineers and the preparation. We're kind of just
14 going from what we could recall.

15 MR. CATULLO: Okay.

16 MR. DINSMORE: So, but mainly, what we
17 recall is that it was a difficulty that was proving
18 difficult to overcome.

19 MR. CATULLO: Okay, well, I'll think about
20 the delayed LOOP then.

21 Okay, thank you.

22 MR. BEALL: As of right now, for the NRC to
23 proceed with any of this rulemaking, we're basically
24 starting from scratch. Because, like I mentioned
25 earlier, the topical report was going to be the

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1 technical portion of the regulatory basis. And since
2 that was never completed, the regulatory basis for the
3 rulemaking was never done.

4 And so, from the staff's perspective, we
5 would, you know, start at that point and then we can go
6 forward generating the regulatory basis like we would
7 plan to do with the topical report.

8 So, if we really wanted to pursue the
9 rulemaking, that would take us a number of years to
10 complete.

11 Are there any other questions?

12 Okay, I think we have to go back and talk
13 and see about maybe setting up a possible another public
14 meeting, Mike, see if we can maybe get you guys some
15 information and put something out there on the
16 regulations.gov for everybody to see.

17 And, we'll take it from there.

18 MR. DINSMORE: You mean, go back and dig up
19 all the issues that were still drifting around?

20 MR. BEALL: Well, we'll talk about that.

21 MR. DINSMORE: Okay.

22 MR. TSCHLITZ: I think, you know, we need
23 something to start the dialogue. I mean, this has been
24 helpful, but a list of questions the staff thinks still
25 need to be addressed or, you know, I guess the fact that,

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1 you know, the topical was never reviewed, whether, you
2 know, where we stand with that.

3 I would check back with the Owners' Group
4 about what their intent would be with pursuing the
5 review of the topical, which, from the BWR Owners'
6 Group.

7 MR. BEALL: Well, the topical report was
8 reviewed, but it just -- it was never completed.

9 MR. TSCHLITZ: So, there's not a see issue
10 there or anything like that, so it would be something
11 that you could take the credit or use the review that
12 was done or there's no documentation of the review?

13 MR. DINSMORE: Well, there'd be
14 documentation up through the last RAI responses. I
15 have a feeling that they never submitted that final
16 topical or an updated --

17 MR. TSCHLITZ: The revision?

18 MR. DINSMORE: The revision, I think they
19 submitted the letter instead. But, I don't remember a
20 new topical. There was a mixed one vision submitted,
21 I don't know if there was two.

22 MR. MIZUNO: I can't remember. This is
23 Gary Mizuno. I cannot remember either. All I know is
24 that the -- just the outlines that the industry felt that
25 the approach that the staff was going down, and again,

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1 my recollection is there's actual looks in the
2 probabilistic area was that that was going to -- that
3 this issue that they were asking -- the probabilistic
4 information, though, would have to be developed to
5 support that thing. It was not justified in light of
6 what they felt was the relatively small likelihood of
7 this actually occurring.

8 I don't think it necessarily agree --
9 disagreed with the potential safety significance, you
10 know, abstractly speaking, but it was really focusing
11 on what was needed to show probabilistically that this
12 was not something that was of practical significance.
13 That was my recollection.

14 MR. BEALL: Okay. Are there any other
15 questions? Comments?

16 Anything Steve?

17 Okay, the NRC staff will review all the
18 comments received today, but please note, we will not
19 be receiving -- providing any individual comment
20 responses.

21 You are encouraged to monitor the LOOP LOCA
22 Rulemaking on the regulations.gov website. The Docket
23 ID there is NRC-2008-0602.

24 All NRC correspondence related to this
25 rulemaking will be placed there including the meeting

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1 summary, the transcript, and things like that.

2 Are there any other last -- any last minute
3 comments?

4 The staff will go back and we'll talk about
5 any possible future meetings on this topic and so, we'll
6 put something out on the meeting notification website.
7 If we do put something out there, of course, on
8 regulations.gov.

9 If there are no further comments, I'd like
10 to thank everyone for your participation today. And,
11 the meeting is now adjourned.

12 Thank you.

13 (Whereupon, the above-entitled matter went
14 off the record at 1:49 p.m.)

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