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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

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REGULATORY POLICIES AND PRACTICES SUBCOMMITTEE

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WEDNESDAY, NOVEMBER 18, 2015

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ROCKVILLE, MARYLAND

The Subcommittee met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B1, 11545 Rockville Pike, at 8:33 a.m., Harold B. Ray, Chairman, presiding.

COMMITTEE MEMBERS:

- HAROLD B. RAY, Chairman
- RONALD G. BALLINGER, Member
- DENNIS C. BLEY, Member-at-Large
- CHARLES H. BROWN, JR. Member
- MICHAEL L. CORRADINI, Member
- JOY REMPE, Member
- PETER RICCARDELLA, Member
- STEPHEN P. SCHULTZ, Member

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GORDON R. SKILLMAN, Member

DESIGNATED FEDERAL OFFICIAL:

GIRIJA S. SHUKLA

ALSO PRESENT:

THOMAS BOYCE, RES

TIM LUPOLD, NRR

ROBERT PETTIS, NRR

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Adjourn	

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

8:33 a.m.

CHAIRMAN RAY: The meeting will now come to order. This is a meeting of the Regulatory Policies and Practices Subcommittee. I'm Harold Ray, Chairman of this Subcommittee meeting. The ACRS members in attendance are Pete Riccardella, Dick Skillman, and our soon to be departing Steve Schultz, regrettably, Dennis Bley, Ron Ballinger, Charlie Brown, and Joy Rempe.

MEMBER BLEY: On the transcript, it's going to say regrettably Dennis Bley.

(Laughter.)

CHAIRMAN RAY: Mr. Girija Shukla of the ACRS Staff is the Designated Federal Official for this meeting. For this, I should say somewhat informal meeting at least, as it started off. The Subcommittee will discuss the draft final Regulatory Guide 1.127, also known as DG 1245, entitled "Design and Inspection Criteria for Water-Control Structures Associated with Nuclear Power Plants" Revision 2 and hear presentations from the NRC Staff on this document. The Subcommittee will gather information, analyze relevant issues and facts, and, if appropriate, formulate proposed

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1 positions and actions for deliberation by the full
2 Committee in December. And we'll discuss that part
3 at the end.

4 The rules for participation in today's
5 meeting have been announced as part of the Notice
6 of this meeting previously published in the Federal
7 Register. A transcript of the meeting is being
8 kept and will be made available as stated in the
9 Federal Register Notice. Therefore, we request
10 that the participants in this meeting use the
11 microphones, including the Chairman, located
12 throughout the meeting room when addressing the
13 Subcommittee. The participants should first
14 identify themselves and speak with sufficient
15 clarity and volume so that they may be readily
16 heard. A telephone bridge line has been also
17 established for this meeting and to preclude
18 interruption of the meeting, the phone will be
19 placed in a listen-in mode during the presentations
20 and committee discussions and will be open for
21 comments later on.

22 As background for the meeting this
23 morning, our Subcommittee initially met to review a
24 draft update of this Reg Guide almost four years
25 ago in February of 2012. Following that meeting,

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1 Staff developed a second draft, which was described
2 in a September 2013 Memo to us and others as a
3 major rewrite of the earlier draft. The Staff said
4 then that, "This Revision includes clear
5 identification of the types of water-control
6 structures covered by this Guide and better
7 description of the type of in-service inspections
8 and examinations the NRC Staff recommends." It
9 does address issues which had been the subject of
10 extensive discussion at the February 2012
11 Subcommittee meeting.

12 To underscore the added clarity
13 provided, the Staff stated at that time also, "This
14 proposed Revision of Reg Guide 1.127 describes in-
15 service inspection and surveillance programs the
16 NRC considers acceptable for dams, slopes, canals,
17 and other water-control structures associated with
18 emergency cooling water systems or flood protection
19 of nuclear power plants. This Guide applies only
20 to water-control structures specifically designed
21 and built for or built by others and used by the
22 licensee or applicant of a nuclear power plant and
23 whose failure could trigger the failure of the
24 plant's emergency cooling systems or flood
25 protection, thereby endangering the plant." Key

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1 words there at the end of the quote are used by.
2 What does used by mean when it's built by others?

3 Continuing, I think it's important to
4 note that although the revised title of the Reg
5 Guide is Design and Inspection Criteria for Water-
6 Control Structures Associated with Nuclear Power
7 Plants, the design criteria are limited to the
8 provisions for "inspection and monitoring of
9 structures." This major rewrite of the Reg Guide
10 was issued for public comment in January of this
11 year and comments received have been addressed by
12 the Staff. Please silence any cell phones during
13 the meeting. We will now proceed with the meeting
14 and I call on NRR Management to begin.

15 MR. LUPOLD: Thank you. My name's Tim
16 Lupold, I'm the Branch Chief for the Mechanical and
17 Civil Engineering Branch in the Office of Nuclear
18 Reactor Regulation. We're a little bit out of
19 process today in that normally I wouldn't be the
20 one who would be kicking this off. Normally our
21 process is that our Office of Research has the
22 project managers for updating Regulatory Guides and
23 I'm part of the technical branch to make sure that
24 the right technical requirements are in there.

25 Having said that, I'd like to thank you

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1 for the opportunity to come and talk to you today
2 about Reg Guide 1.127, which as stated has been
3 presented here before. Since the time we did
4 present, it has gone out for public comment. And I
5 have Bob Pettis here today of my staff who will
6 actually be talking about the details of what has
7 been done, the comments that we got, and changes
8 that have been made to the Reg Guide in this
9 particular Revision.

10 CHAIRMAN RAY: And, Tim, I want to make
11 the point again that we have not reviewed at that
12 prior meeting this extensive rewrite that was done
13 after the meeting that we held.

14 MR. LUPOLD: Okay.

15 CHAIRMAN RAY: So, just to be clear
16 about that.

17 MR. LUPOLD: All right. Very good. I
18 don't know if I would classify it as an extensive
19 rewrite, there are some changes to it that we've
20 made. But it's a document that contains like
21 inspection criteria for these structures. And
22 these structures really haven't changed a lot over
23 the years. And a lot of the -- and Bob will talk
24 about what we've done, the revisions we've made,
25 and how we've clarified it and brought it up to

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1 speed with the Dam Safety Program and how the Dam
2 Safety Program requirements have changed a little
3 bit over the years. So as that's changed, then
4 this document needed to be upgraded in order to
5 comply with that also.

6 But, yes, I do want to say that we are
7 from the technical branch and our project manager
8 was unable to be here today due to some medical
9 issues. And so we did not want to extend this and
10 try and reschedule this because we knew you were
11 coming in and were prepared to listen to the
12 changes. So we're forging ahead and we'd still
13 like to go through with the presentation today and
14 we think we have the right people who that can do
15 that. So with that, I'm going to turn it over to
16 Bob and he can go through his presentation to you.

17 CHAIRMAN RAY: Thank you. Well, again,
18 and the reason I'm harping on this is, if you read
19 the transcript of the first meeting, it was long
20 and a lot of discussion, after which then we got
21 this Memo saying, we've produced a new Revision and
22 it's an extensive rewrite. And, indeed, if you
23 look at the redline markup, there's hardly a word
24 left any longer. I'm exaggerating, but it's close
25 to that. So I think from a practical standpoint,

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1 we have to recognize that we're looking at
2 something that, number one, we hadn't looked at
3 until this meeting in terms of its content and,
4 secondly, something which we were informed at least
5 did include resolution, or response I should say,
6 to the comments of the meeting that was held
7 initially four years ago.

8 So, with that in mind at least, I don't
9 want to undercharacterize what we're looking at
10 here as merely a minor update. That's been said
11 from time to time, but I think if you look at it
12 carefully and review the transcript of the first
13 meeting, you'd find that there was a lot of
14 discussion that occurred at that time which I think
15 we've now addressed here in this Revision. At
16 least I hope so. And we need to be aware of that.
17 I understand, Tom's shown up, do you have any
18 comments you want to make on it?

19 MR. BOYCE: No, I don't.

20 CHAIRMAN RAY: All right. That's fine
21 then. Go ahead, Bob.

22 MR. PETTIS: Okay, thank you. Maybe
23 just to go back a minute or two with respect to
24 your comment about the 2012 meeting. This meeting
25 should be nothing like the 2012 meeting. The 2012

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1 meeting came at a bad time. It was a year after
2 Fukushima, there were issues regarding flooding,
3 there were issues with other plants, TVA, Watts
4 Barr, Oconee, a whole bunch of other issues that
5 seemed to confuse the presentation. If you look at
6 the transcript, there's just a lot of discussion
7 that shouldn't have been discussed because it
8 wasn't appropriate, nor was it applicable to the
9 draft that we were presenting at the meeting.

10 CHAIRMAN RAY: That's why I tried to
11 define the box that this Reg Guide fits in as being
12 as I described initially. I agree with you, there
13 was a lot of discussion, and no doubt the reasons
14 were as you've stated, that seemed to wander off
15 extensively. On the other hand, this is pretty
16 specific and important and it can be subject to
17 some considerable discussions. So let's go ahead.

18 MR. PETTIS: Sure. I just wanted to set
19 the stage for that because --

20 CHAIRMAN RAY: I agree with you, yes.

21 MR. PETTIS: -- what came out of that
22 meeting was incorporated into, or at least the
23 essence of what came out of the meeting we tried to
24 incorporate into the future draft. So this should
25 have some connection with that 2012 meeting, only

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1 with respect to scope and what was covered and what
2 does this address and so forth. Since then, it's
3 gone through quite a few technical branch reviews,
4 including our review, including research and other
5 applicable tech groups within the Agency. If we
6 could go to the next slide. Oh, I have to do it?

7 CHAIRMAN RAY: Yes.

8 MR. PETTIS: Oh, okay.

9 CHAIRMAN RAY: We don't have a -- we
10 wish we did sometimes, but --

11 MR. PETTIS: I should have brought my
12 assistant. Well, I did actually.

13 (Laughter.)

14 MR. PETTIS: That's just like my
15 computer. Okay. Great. So, again, we have a
16 slide that just tries to capture the purpose of the
17 Revision. We have the original Rev 1 that was
18 issued in 1978. It's been in existence for 37
19 years, doesn't seem to be a Reg Guide that causes
20 much difficulty. Plus, when you go back and look
21 historically, you find that there's not that many
22 licensees currently that either commit or recognize
23 or reference Reg Guide 1.127 in their FSAR or in
24 their License Renewal Applications. So, we were
25 just trying to capture, since this has been

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1 unrevised for 37 years, what impact may it have
2 caused.

3 And, quite frankly, I think the last
4 study we did, we looked at about 60 of the License
5 Renewal Applications that have come into the
6 Agency, going through those Applications to see if
7 they had committed or referenced the Reg Guide
8 1.127. I think the count is something like about
9 25, 23 of the plants which may have referenced it,
10 but then when you go further and kind of pull the
11 string on it, they don't exactly commit to it from
12 a licensing basis, a regulatory basis standpoint.
13 They basically say, well, we use it in our
14 incorporation of procedures and practices and what
15 have you. So, I guess the takeaway with this is,
16 this is not a Reg Guide that seems to be widely
17 used by the industry.

18 MEMBER BLEY: Before you leave that,
19 maybe talk about the implications. That makes the
20 NRC review more difficult perhaps? Or does it make
21 much difference?

22 MR. PETTIS: I don't think it makes much
23 difference. It was just kind of a interesting
24 point, a curiosity point, because we're revising a
25 Reg Guide that's been in existence for 37 years and

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1 licensees have used it in their programs and plant
2 procedures and it didn't exactly hit the high
3 priority list.

4 MEMBER BLEY: Okay.

5 MR. PETTIS: So that's my only reason
6 for bringing this up is to kind of benchmark it.
7 And that's why we back and looked at the License
8 Renewal Applications because those were recent
9 applications that have come into the Agency
10 probably over the last ten years, eight years or
11 so. So we wanted to try to get feel for it.

12 MEMBER SKILLMAN: Bob, let me --

13 MR. PETTIS: Yes, sir?

14 MEMBER SKILLMAN: -- just pull the
15 thread just a little more. Suppose we think of
16 four or five plants on rivers or on man-made lakes
17 that depend on these water-control structures for
18 their normal intake plus emergency cooling service,
19 whether it's reactor building cooling or component
20 cooling water into nuclear service to RHR, residual
21 heat removal, and they're old plants, some
22 predating 1978. Would the regulatory magnifying
23 glass be adjusted based on Appendix A to 10 CFR 50
24 and the general design criteria applying to cooling
25 systems as opposed to this emergent Reg Guide?

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1 MR. PETTIS: You're probably talking
2 pre-GDC plants --

3 MEMBER SKILLMAN: I am.

4 MR. PETTIS: -- I guess at that point.

5 MEMBER SKILLMAN: I'm kind of pulling
6 the thread on Dennis's question. So here's a new
7 Reg Guide, it was an old Reg Guide probably not
8 used by some of those older plants, or at least not
9 respected, in design basis space. So here we are
10 in 2015 looking at a rather significant rewrite,
11 how should we think about this document's
12 applicability to those older plants?

13 MR. PETTIS: Well, there's no back-fit
14 provision with respect to this Reg Guide with those
15 older plants. Those older plants, there's probably
16 a handful of them that basically skirt most of the
17 regulations to begin with. And I'm not that
18 familiar with what exactly those plants have in
19 their design or licensing basis, but that would be
20 the test over what they would have to comply with.

21 MEMBER SKILLMAN: Well, I was thinking
22 that those were among the 25 or so that you were
23 mentioning.

24 MR. PETTIS: They probably are in the
25 25, because we had a total review of about 60

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1 plants that came in for license renewal and I think
2 the count was 23 that mentioned it. But then as we
3 pulled the string, we got down to maybe ten or 11
4 that actually reference it to some degree. But,
5 again, I mean, sometimes we get caught up in the
6 fact that we have all of these documents and they
7 all say what they say and it's been a complete
8 rewrite, but the bottom line is, this is a Reg
9 Guide. This is not an Information Notice, this is
10 not a Bulletin, this is a method that's approved by
11 the Staff to basically --

12 MEMBER SKILLMAN: It's a voluntary
13 compliance for those who choose.

14 MR. PETTIS: -- implement the
15 regulation. So, we could have a gold plated Reg
16 Guide and it's up to the individual licensees to
17 pick and choose pieces of it or just say, hey, we
18 have our own way of complying with the regulation
19 under GDC 45.

20 MEMBER SKILLMAN: Got you. Bob, thank
21 you.

22 MEMBER SCHULTZ: Bob, just a follow-up
23 there then. You mentioned that ten or 12 plants
24 actually reference it. Does that mean that they
25 committed to the Reg Guide?

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1 MR. PETTIS: No. No, actually the
2 summary, I just brought it along because I thought
3 it might be of interest in case a question came up.
4 This is probably fairly recent, 23 out of 63 plants
5 either committed or referenced the Reg Guide in
6 their License Renewal Applications. But as we went
7 into these and we started looking at them, we saw
8 words in there like, well, we don't commit to it,
9 but we reference it, we use it to incorporate and
10 generate plant procedures. So the true word from a
11 regulatory standpoint, from a design or licensing
12 basis, not many of the plants actually said they
13 committed to it. But they did reference it. I
14 have a couple of them here that we just spot
15 checked. And, again, this was just an attempt to
16 try to get our arms around the applicability of the
17 Reg Guide.

18 MEMBER BLEY: When we reviewed license
19 renewals, I can't recall specifically looking to
20 see if they cite the Reg Guide, but I think they
21 must have cited what they plan to do to inspect and
22 ensure that these systems would last throughout the
23 extended lifetime.

24 MR. PETTIS: Well, right, they have to.

25 MEMBER BLEY: Can you comment on that?

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1 Yes, they have to.

2 MR. PETTIS: Well, they have to because

3 --

4 MEMBER BLEY: So they have something in
5 there, whether they --

6 MR. PETTIS: Oh, of course.

7 MEMBER BLEY: -- commit to this or not.

8 MR. PETTIS: Of course, they have to
9 because they have to address the GALL provisions
10 and the TLLA and how they're going to address
11 aging, especially for concrete structures and what
12 have you. It's just that we just took a look just
13 because when you're revising a Reg Guide that's
14 been out there on the street for 37 years without
15 the basis of a revision in between, one has to
16 probably infer that there doesn't seem to be a big
17 significant interest.

18 MEMBER BLEY: Yes. There's a little bit
19 why have the Reg Guide if nobody's using it? The
20 other part might be, nobody's using it because it's
21 so far out of date. I don't know if that was true
22 or not.

23 MR. PETTIS: Yes.

24 MEMBER BLEY: You probably don't know
25 that either.

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1 MR. PETTIS: But that was the only
2 attempt to just -- I was curious as to what the
3 population was. In the 2012 meeting that we had,
4 Dr. Shack concurred with one of our statistics back
5 then at the time, which I think was about 20 or 18
6 or so plants. I don't know how he did it, but he
7 had a laptop and he --

8 MEMBER BLEY: He would have tracked it.

9 MR. PETTIS: -- did it quicker than we
10 did. So I don't know.

11 MEMBER REMPE: Maybe this is a good time
12 to bring it up that one of your comments was a
13 question about the dynamic referencing of
14 references and the fact that there's no revision
15 cited. And is there any mechanism or can you tell
16 me how the Commission deals with that one of these
17 references might change and is there any spot check
18 to say, well, the change in that reference
19 conflicts with the Reg Guide? I mean, you have
20 dynamic referencing and that sounds good, but what
21 does that mean? Is there any sort of interaction
22 and saying, oh, well, now this reference has
23 changed and it conflicts with that Reg Guide? Does
24 anyone pay attention to that?

25 MR. BOYCE: Yes, I'll try and --

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1 MR. PETTIS: Yes, Tom probably is better
2 equipped to handle that.

3 MR. BOYCE: Yes. Tom Boyce, Branch
4 Chief for Reg Guides. And process wise, dynamic
5 referencing is normally reserved for NRC type
6 guidance. So what we don't want to do is update
7 other Reg Guides, for example, and then have this
8 Reg Guide reference the past or previous version of
9 NRC guidance. So we purposefully do not have
10 revision numbers, et cetera, for regulatory NRC
11 guidance. So we're always getting better. Now, as
12 far as if we're referencing industry guidance, we
13 want to freeze that particular revision. And the
14 reason is because, like in the case of consensus
15 standards, they might actually put in place a
16 relaxation in a future revision that the NRC would
17 not approve.

18 In general, we like to go with the
19 latest revision because that represents current
20 industry thinking, but we have to make sure we
21 observe our statutory requirements to take a look
22 and make sure it's not a relaxation in safety.
23 That's why we have static referencing for the
24 industry stuff. Every five years, we do a periodic
25 review of every Guide. That periodic review should

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1 involve a review of whether or not the Reg Guide is
2 referencing the latest standard. If there is an
3 updated standard at that time, the staff normally
4 takes a look, looks at the change between the
5 previous version and the current version, and makes
6 an assessment whether there's sufficient safety
7 benefit to actually revise the Reg Guide. So
8 that's a process answer.

9 MEMBER BLEY: That's kind of a, would it
10 were so, though. We've seen many cases where it's
11 gone ten, 20 years without recognizing the updated
12 consensus standards, even if the staff says they
13 would have approved them, they just haven't gotten
14 around to it.

15 MR. BOYCE: Well, that's right. There's
16 always a choice. When you find out that you're not
17 at the latest standard, you have to make a choice
18 as to the cost and benefit. In general terms, if
19 you don't have any applications coming in, there's
20 no benefit. There is a cost to the staff to
21 actually go through the revision process. So what
22 we do as part of the periodic review is estimate
23 how many license amendments or inspection
24 activities would require use of the guidance and
25 then we say, okay, how much resources would it take

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1 to review the new guidance and then put it out for
2 public comment, deal with public comments,
3 potentially CRS review, et cetera? Is there
4 sufficient benefit to revise the Guide? So we
5 don't have unlimited resources and we make that
6 kind of judgment call. That's part of what our
7 branch does is help with that decision making.
8 Now, this is all process, when it comes down to
9 specific standards, then you might want to bring
10 your question up again.

11 MEMBER BLEY: We have.

12 MR. BOYCE: Okay. Well, which one?

13 MEMBER SCHULTZ: Tom, I want --

14 MEMBER BLEY: A number of them in
15 derived protection area and the electrical area and
16 several others. But that's not what this meeting's
17 about.

18 MR. BOYCE: Okay.

19 MEMBER BLEY: Since we're on the record,
20 I'd think we'd say there are some cases where
21 they've gone a long time.

22 MR. BOYCE: Okay.

23 MEMBER SCHULTZ: Some more specific
24 information might be helpful for this discussion.
25 So, this Reg Guide would have been reviewed or is

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1 there documentation that it has been on that five
2 year review cycle and it was reviewed every five
3 years to determine whether updates were required?

4 MR. BOYCE: Well, that's a good
5 question. Timing wise, my branch was formed in
6 2006 and the major focus was updates and revisions.
7 We've put in place the periodic review process in
8 about 2013.

9 MEMBER SCHULTZ: Yes, that's what I
10 thought.

11 MR. BOYCE: The revision for this Guide
12 was in progress in 2012. And so it doesn't make
13 sense to review it, you already know you're
14 revising it. So we did not do a review of this
15 Guide, we just -- that's part of the revision
16 process, we picked up reviews of the appropriate
17 standards.

18 MEMBER SCHULTZ: So going back to let's
19 say the 1990s, that time frame, review had not been
20 done of this --

21 MR. BOYCE: That's right. The staff --

22 MEMBER SCHULTZ: -- periodic review?

23 MR. BOYCE: Prior to about 2013, there
24 was no review process for any Agency guidance
25 actually. To my knowledge, Reg Guides is the only

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1 area of NRC regulatory guidance where we do
2 periodic reviews. There is an Executive Order for
3 retrospective reviews of Rules that is done of our
4 10 CFR, but that's not at the lower level guidance
5 we're talking about here.

6 MEMBER SCHULTZ: So the combination of
7 the reviews were not being done, there wasn't a
8 documentation being performed by the staff to
9 identify the changes that were taking place --

10 MR. BOYCE: Exactly.

11 MEMBER SCHULTZ: -- with regard to the
12 information in the Guide --

13 MR. BOYCE: You got it.

14 MEMBER SCHULTZ: -- it could explain why
15 so few License Renewal Applications had a
16 commitment to this.

17 MR. BOYCE: Perhaps.

18 MEMBER SCHULTZ: And give --

19 MR. BOYCE: Perhaps, I could also
20 speculate --

21 MEMBER SCHULTZ: We're seeing quite a
22 number --

23 MR. BOYCE: -- that they didn't want to
24 commit to greater requirements.

25 MEMBER SCHULTZ: Yes. Okay, thank you.

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1 MEMBER REMPE: So, what I've heard then
2 with respect to the Reg Guides, if Reg Guide A is
3 making an update and Reg Guide B references Reg
4 Guide A, there's enough oversight by the staff that
5 they would check to make sure that when you update
6 Reg Guide A that anything that is referenced by it
7 is not going to be in conflict. Is that what
8 you're telling us?

9 MR. BOYCE: That is implicit in the
10 update process, yes.

11 MEMBER REMPE: Okay.

12 MR. BOYCE: And as an infomercial and I
13 don't want to highjack this meeting, while we
14 recognize how difficult that could be, Sue, we've
15 added a new section, which you'll see in this
16 Guide, that talks about related guidance. And
17 that's relatively new over the last couple of
18 years. And that's an attempt to make sure we don't
19 miss guidance. Again, that's a process improvement
20 we're trying to make. And within our branch, we
21 also have a database that we've had a contractor
22 build that helps us with where all the cross-
23 references are. And so we provide that information
24 to the technical leads. That database actually
25 just got put in place and so Bob wouldn't have had

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1 access to that. But Bob's already done all the
2 review informally. And that's the way we've always
3 done those. So that's just a little bit of process
4 improvement, but not part of this meeting.

5 MEMBER BLEY: Because of my previous
6 comments, I do want to say that, that role you play
7 we see as an important one and we have been seeing
8 the results of that with revision coming in and
9 updates of the external guidance as well.

10 MEMBER SCHULTZ: I agree with Dennis's
11 comments, certainly, wholeheartedly. I did want to
12 ask another question to follow up your comment
13 that, well, the commitments may not have been made
14 because it would increase the burden on the plants.
15 In other words, to comply with the Reg Guide as is
16 compared to what they had done originally. When
17 you do a revision to a Guide, do you go through
18 what it would imply to each plant were they to
19 choose to adopt it? The revisions that the plant
20 would need to make in their commitments?

21 MR. BOYCE: That's a good question. The
22 update of the guidance itself is -- the answer is
23 probably not systematically. It's incumbent on the
24 technical lead to do that if he or she feels it's
25 appropriate. Most of the revisions are intended to

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1 be forward-fit vis back-fit, so that type of effort
2 isn't exactly required. When you update a
3 standard, that doesn't mean you're actually going
4 to apply it to all your plants. Nonetheless, we
5 recognize that some of these, like this one dealing
6 with inspection, might have ongoing value for
7 operational reasons.

8 And so another process improvement
9 that's recent is actually we've added a subsection
10 called Applicability in our Reg Guides. I don't
11 think that, that actually appears in this version
12 because we just started that about a year ago. And
13 we're trying to actually sketch out what facilities
14 that this might apply to and to help answer that
15 question. But it's not a systematic review like
16 Bob just did of all 63 plants that have just gone
17 through license renewal. Bob did that because he's
18 conscientious.

19 MEMBER SCHULTZ: Appreciate that.

20 CHAIRMAN RAY: Certainly applicability
21 is an important element here because of the unique,
22 I guess unique, potential for the application to
23 structures not part of the plant itself, but used
24 by the plant. That whole concept is at least part
25 of the issue that we need to think through here at

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1 this point in time. So if we had been timely
2 enough to get that section here and address it
3 explicitly, that would be probably helpful.

4 MEMBER BROWN: Along that line, when you
5 say applicability, you do have a paragraph called
6 Implementation and that does state this is for use
7 by applicants and licensees. So it doesn't exclude
8 a licensee from utilizing the information in here,
9 whether it be for surveillance or inspections or
10 other specific criteria that they maybe need to
11 address. And you state that very clearly in the
12 first and second paragraphs under use by applicants
13 and licensees. So I may not have something that
14 says applicability, but it seems to me fairly clear
15 that this applies, and it does say voluntary on it
16 since you're not back-fitting it. So I don't think
17 it's vague from that standpoint.

18 CHAIRMAN RAY: Well, what I was
19 referring to, Charlie, was the facilities at
20 greater and greater distance, let's say, from the
21 plant site which may have an effect, could --

22 MEMBER BROWN: Oh, yes.

23 CHAIRMAN RAY: -- conceivably have an
24 effect, to what extent it gets applied there
25 because even though the facility is built by and

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1 owned by somebody else and probably predates the
2 plant altogether, it nevertheless is used in the
3 sense that it provides some protection against
4 flooding, for example. And that's what I meant
5 when I was talking about --

6 MEMBER BROWN: Okay.

7 CHAIRMAN RAY: -- applicability.

8 MEMBER BROWN: But I would also --
9 there's a new paragraph also relative to water-
10 control structures owned, operated, and regulated
11 by others. That's under the special inspections
12 category, where it talks about the licensee should
13 verify that the other, whoever's responsible, needs
14 to care and feed for that particular -- now, they
15 don't have any regulatory action, they can't go --
16 I guess they could sue the guy if they didn't think
17 they weren't doing something, but I mean, there's
18 no enforcement legally. But at least it tells the
19 licensee that they should verify with the owner of
20 the other structures that if there's unusual events
21 that may impact the structure's integrity, they
22 need to look at it because it supports us. And
23 that's a new paragraph in here. So, anyway, I --

24 MR. PETTIS: We also have somewhat of a
25 sister paragraph, which is on the bottom of Page 5,

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1 it's under Staff Regulatory Guidance under Section
2 C, that the last three sentences talk about the NRC
3 Staff may consider the recommendations of this
4 Guide fulfilled if the water-control structure is
5 regulated by another federal agency or state that
6 enforces a comparable inspection program. And
7 there are plants in which derive either normal
8 cooling water or emergency cooling water inventory
9 from these offsite sites or offsite facilities.

10 We took a look at that and there's
11 about probably 13 or so, 11 to 13, that are either
12 regulated by individual states, Corps of Engineers,
13 TVA, FERC, so those facilities would not be within
14 the licensee's inspection boundary. They basically
15 can pass the ball so to speak as long as they're
16 using a comparable inspection program. And most of
17 the guidelines that we try to incorporate into this
18 Reg Guide came from FERC and came from some of the
19 other federal agencies.

20 MEMBER BLEY: Okay. Since you've jumped
21 -- we've kind of covered your whole slide
22 presentation in bits and pieces.

23 (Laughter.)

24 MEMBER BLEY: I was waiting, I have some
25 comments of my own and I have some from John

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1 Stetkar, who couldn't be with us now.

2 MR. PETTIS: Okay.

3 MEMBER BLEY: They overlap a bit. I'm
4 going to jump to the end of his because you were
5 just talking about it. And as you indicated and as
6 that paragraph indicates, if someone else is
7 responsible for the structure and it can effect us
8 either through flooding or losing our ultimate heat
9 sink, if they have a competent inspection program
10 that meets the guidance, what if they don't? What
11 if it belongs to a town and it was there when the
12 plant was built and they don't have an inspection
13 program? Then, what kind of inspection is required
14 and what does the plant have to do?

15 MR. PETTIS: That's probably a good
16 question. If it was some municipality --

17 MEMBER BLEY: Yes.

18 MR. PETTIS: -- I'm not so sure the
19 operating plants rely on that level.

20 MEMBER BLEY: I don't know for sure,
21 they could.

22 MR. PETTIS: Yes, I mean, they may. We
23 didn't look at it that much in detail.

24 MEMBER BLEY: Well, would the
25 responsibility lie with them? The Guide is sort of

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1 incomplete there?

2 MR. PETTIS: Well --

3 MEMBER BLEY: It says it's okay if there
4 is a competent authority, but it doesn't say what
5 you do if there's not.

6 MR. PETTIS: Well, the competent
7 authority are the ones that we mentioned which were
8 --

9 MEMBER BLEY: Yes.

10 MR. PETTIS: -- other federal agencies -
11 -

12 MEMBER BLEY: Right.

13 MR. PETTIS: -- or state that employ
14 that type of program. We're not saying that the
15 State of XYZ has a comparable program. I mean, one
16 would have to vet that program. We're probably
17 under the assumption that if the licensee is
18 relying on that particular structure and they're
19 relying on it in their combined licensing basis and
20 they're taking credit for it, then they should be
21 in a position to do their due diligence with
22 respect to that state --

23 MEMBER BLEY: Okay.

24 MR. PETTIS: -- that state's program.

25 MEMBER BLEY: Although it doesn't say

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1 anything directly, that would be on them to prove?

2 MR. PETTIS: Well, it's kind of in the
3 regulatory theme throughout I think everything that
4 we do is that ultimately the licensee is
5 responsible --

6 MEMBER BLEY: In a related --

7 MR. PETTIS: -- for everything that
8 happens at their plant. So we're not that
9 prescriptive to tell the plants exactly what they
10 should do and what they must do. What we're
11 basically providing is guidance for them. Just
12 like licensee and their relationship with vendors
13 of their facilities, most of them fall under a
14 safety-related Appendix B type of program under 10
15 CFR 50, licensee's responsible to ensure that those
16 contractors are doing what they're supposed to do
17 under their quality program. So I guess we figured
18 everybody has the burden here to demonstrate that,
19 that water-control structure, we'll call it, if
20 it's used and taken credit for in the design basis
21 or CLB of the plant, then they need to do what they
22 have to do. And I know it doesn't say that exactly
23 in words, but they all commit to Appendix B of 10
24 CFR 50.

25 MEMBER BLEY: So that's -- okay.

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1 MR. PETTIS: So there's the regulatory
2 tie that we have that's tied to the statute, which
3 is a lot more meaningful because the plant's
4 license is a function of that.

5 MEMBER BLEY: Okay. John had another
6 question related to other federal organizations or
7 other authorities that have inspection programs in
8 place. And back at the last meeting, I think he
9 had asked if plants have formal agreements and
10 communication protocols in place with dam system
11 operators and others controlling these structures.
12 And I think the answer was, no, I know the answer
13 at the meeting was, no formal communications
14 agreements are in place. And he just comments that
15 he's still confused by that.

16 For example, in the electrical area,
17 Reg Guide 1.93 indicates that licensees should have
18 coordination agreements in place with offsite
19 electrical transmission system operators. And he
20 doesn't understand why the analogy wouldn't apply
21 here, that you ought to have something here that
22 says you need to have some agreements in place with
23 these other organizations. You can comment on that
24 or we can just leave it in the record.

25 MR. PETTIS: Yes, well, we didn't

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1 address it from that standpoint.

2 MEMBER BLEY: Okay.

3 MR. PETTIS: I mean, we took the
4 approach that, and I can't find my, oh no, I do
5 find it, here it is right here.

6 MR. LUPOLD: If you'd like me to
7 comment.

8 MR. PETTIS: Yes.

9 MR. LUPOLD: This Regulatory Guide's
10 about inspections, inspections of these structures.
11 There are a lot of plants that have coordination
12 agreements with water-control structures --

13 MEMBER BLEY: It's also about design
14 criteria --

15 MR. LUPOLD: -- dams specifically --

16 MEMBER BLEY: -- by the title anyway.

17 MR. LUPOLD: All right. We'll get into
18 why the design is in there. It's in there because
19 when you do the design, you need to establish a
20 design that can be inspectable. And that's why --
21 and going back to GDC 45, GDC 45 talks about the
22 design and inspection of the components and the
23 design has to be such that they can be inspected.
24 And that's really why the word design was put into
25 the title is because GDC 45 says design in there

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1 and the concept is that when you design a dam, any
2 structure that has to be inspected, you need to
3 make sure and account in your design for the
4 inspectability of it. And that's why we added that
5 word into the title.

6 MEMBER BLEY: If I read carefully, I
7 think I see that here as well. John had another
8 point --

9 CHAIRMAN RAY: Dennis, before you move
10 on, because I want to --

11 MEMBER BLEY: Sure.

12 CHAIRMAN RAY: -- follow up on the
13 coordination agreement notion. I think the point
14 that Tim made, and I just want to be clear about
15 it, is let's assume we had a coordination
16 agreement, it would be a coordination agreement
17 with regard to inspection and monitoring, those are
18 the two words that the Reg Guide uses, not a
19 coordination agreement as you do with a grid
20 operator for operation of the grid, or in this case
21 the operation of the water-control structure.

22 MR. LUPOLD: And that's what it was
23 trying is that --

24 CHAIRMAN RAY: I know.

25 MR. LUPOLD: -- there actually are a lot

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1 of agreements for the operation of the dams.

2 CHAIRMAN RAY: For sure.

3 MR. LUPOLD: Yes.

4 CHAIRMAN RAY: But the fact that the Reg
5 Guide doesn't talk about a coordination agreement,
6 I surmise, I'm speculating, but I'm assuming it's
7 because it's only talking about inspection and
8 monitoring and that doesn't mean you can't have an
9 agreement about inspection and monitoring, but
10 that's what the agreement would be about within the
11 scope of this Reg Guide.

12 MR. LUPOLD: Now, many of these dams
13 fall under the national dam safety program, and
14 that's not the correct terminology for it, but
15 there's an Interagency Committee on Dam Safety --

16 MEMBER BLEY: We actually had an NRC
17 member of that committee here at one of our
18 meetings, I don't know if it was that last. But go
19 ahead.

20 MR. LUPOLD: It was probably George
21 Wilson.

22 MEMBER BLEY: Yes, I think you're right.

23 MR. PETTIS: It was probably Ken
24 Karwoski.

25 MR. LUPOLD: No, back in that time, I

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1 think it was George Wilson and now the Dam Safety
2 Officer now is Ken Karwoski. And that committee
3 looks at the safety of a lot of these dams that are
4 upstream of these power plants. And they ensure
5 that the inspections are done. And some of those
6 are done by FERC, FERC has the oversight for any
7 dam that also includes a generator. And the Army
8 Corps of Engineers has responsibility for many
9 dams. TVA has responsibility for the dams in the
10 TVA system. The states have responsibility in
11 some. But every dam that's in the program should
12 have an individual who is responsible for the
13 inspections of that structure. And the NRC has
14 nine dams that we're responsible for, seven are
15 associated with power plants, two are associated
16 with the uranium mines.

17 MEMBER SCHULTZ: Tim, with regard to the
18 focus of the Guide, you've mentioned and it's been
19 discussed several times now that the focus is not
20 the design of the structure, but the design to
21 assure that inspection is achievable. Is that
22 correct?

23 MR. LUPOLD: Yes. There will not be a
24 lot of statements in there that talk about a
25 design, but it's just there to ensure that --

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1 MEMBER SCHULTZ: But I'm --

2 MR. LUPOLD: -- it's inspectable.

3 MEMBER SCHULTZ: I'm a bit confused with
4 the choice of the title for the Guide. Because if
5 you read the title, it clearly would suggest that
6 we're talking about design of the structures.

7 MR. LUPOLD: And when you get --

8 MEMBER SCHULTZ: Not design for
9 inspection.

10 MR. LUPOLD: When you get into the
11 Regulatory Guide, it will not tell you how to
12 design a water-control structure.

13 MEMBER SCHULTZ: So why are we relying
14 upon the same title or the title that's been chosen
15 here to --

16 MR. LUPOLD: The reason --

17 MEMBER SCHULTZ: -- see what the Guide
18 is about?

19 MR. LUPOLD: Well, I'll tell you exactly
20 why we put the word design in there.

21 MEMBER SCHULTZ: I understand, but --

22 MR. LUPOLD: And whether you agree with
23 that or not, that's up to you. But the reason we
24 put the word design in is because the word design
25 is used in GDC 45. And so we said, since GDC 45

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1 references design --

2 MEMBER SCHULTZ: But it's title is --

3 MR. LUPOLD: -- we should also have it -

4 -

5 MEMBER SCHULTZ: -- inspection.

6 MR. LUPOLD: -- in the title.

7 MEMBER SCHULTZ: It's title is
8 inspection, GDC 45.

9 MR. LUPOLD: Well, it could easily be
10 removed, but that was the reason it was added in.

11 MEMBER BLEY: Yes. I kind of think it
12 would help. I can help you out a little though.
13 When you read the first sentence, it says,
14 considered applicable for designing water-control
15 systems such that inspections can be done.

16 MR. LUPOLD: Right.

17 MEMBER BLEY: But, yes, I think the
18 title's misleading. I agree with Steve on that.

19 CHAIRMAN RAY: We've all noted that,
20 that you have to read what you just did, Dennis, in
21 order to understand --

22 MR. LUPOLD: And I understand that.

23 CHAIRMAN RAY: -- that design is limited
24 to inspection capability.

25 MR. PETTIS: On Page 6 of the Guide

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1 under Item 1, we have a short paragraph called
2 Design Features. And in that three sentence
3 paragraph, it states, in accordance with GDC 45,
4 water-control structures shall be designed and
5 instrumented to facilitate the inspection and
6 monitoring program discussed below. The features
7 and instrumentation should be designed to withstand
8 the same design basis as the structure itself.

9 MEMBER SCHULTZ: I got all that. I
10 still go back and say, so why is the title chosen
11 that it would be Design Criteria for Water-Control
12 Structures, Inspection Criteria for Water-Control
13 Structures. It seems to me to be a poor choice.

14 MEMBER BLEY: Well, can I -- I want to
15 go back to kind of the beginning. This crosses
16 through Section A, a little bit of Section B, and
17 especially Section C. There are words about
18 applicability and the first, in Section A, it
19 begins with, the structures include those use in
20 emergency cooling water systems and those relied
21 upon for flood protection. And those same kind of
22 words are repeated in many places. And then we get
23 the words that show up on your Slide 7 in Section
24 C, which says, the Reg Guide applies only to water-
25 control structures which are part of the nuclear

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1 power plant. Which kind of says it wouldn't be
2 some of these other things that could cause
3 flooding if they belong to somebody else.

4 CHAIRMAN RAY: There's more to that
5 sentence you read, isn't there?

6 MEMBER BLEY: And who's failure could
7 either cause site flooding, the failure of the
8 plant's emergency cooling water systems, or
9 otherwise endanger the plant. I guess depending on
10 how you read that, John was reading it in a Boolean
11 kind of way with those things. And what you're
12 really saying, if any of those apply that it's
13 within the scope. Is that right? The scope is
14 anything that can either lead to flooding or loss
15 of --

16 MR. PETTIS: Well, I want to --

17 MEMBER BLEY: -- the heat sink --

18 MR. PETTIS: I guess I want to be --

19 MEMBER BLEY: -- loss of emergency
20 cooling water.

21 MR. PETTIS: -- careful because this Reg
22 Guide is not a flooding Reg Guide. That's not the
23 purpose.

24 MEMBER BLEY: No, it's not. But you're
25 saying what I inspect should be anything --

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1 MR. PETTIS: Which is -- the wheels fell
2 off the meeting in 2012 because we were --

3 MEMBER BLEY: So we'll tie it back --

4 MR. PETTIS: -- going down that path.

5 MEMBER BLEY: -- to inspection.

6 MR. PETTIS: We're talking about, or at
7 least this is referring to --

8 MEMBER BLEY: I can read this thing in a
9 few different ways. So very clearly tell us what
10 water-control structure inspections this applies
11 to.

12 MR. PETTIS: This applies to structures
13 that are onsite or offsite that the plant relies on
14 for either normal cooling water or emergency
15 cooling water that are part of the plant's design
16 basis.

17 MEMBER BLEY: Or could lead to flooding?

18 MR. PETTIS: Could lead to flooding.

19 MEMBER BLEY: Okay.

20 MR. PETTIS: Something onsite --

21 MEMBER BLEY: That's a pretty general
22 scope. So there are some places where I think one
23 can read it differently.

24 MR. PETTIS: There could be some type of
25 an earthen dam or something onsite that due to poor

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1 inspection or structural stability issues or what
2 have you floods the plant or floods the site. But
3 this is contained within the site. This is not a
4 flooding Reg Guide. Those are all post-Fukushima
5 issues, which --

6 MEMBER BLEY: But the scope --

7 MR. PETTIS: -- this is not.

8 MEMBER BLEY: -- are failures of --
9 inspections of water-control structures that could
10 affect the ECS or could lead to flooding of
11 important equipment.

12 MR. PETTIS: Right. Which is where the
13 onsite and offsite come from.

14 MEMBER BLEY: Yes.

15 MR. PETTIS: Which is why we --

16 MEMBER BLEY: And they can belong to the
17 plant or belong to somebody else, but if they can
18 do those things --

19 MR. PETTIS: Well, they're part of the
20 plant in that they're --

21 MEMBER BLEY: Ah, okay. That's what
22 those words mean.

23 MR. PETTIS: They're part of the plant
24 obviously because they're affiliated with emergency
25 cooling water systems.

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1 CHAIRMAN RAY: Wait a minute. Let me
2 read again, now this isn't from the Reg Guide, this
3 is from the Memo that forwarded the revised, the
4 major rewrite to us. And that Memo said, this
5 Guide applies only to water-control structures
6 specifically designed and built for or built by
7 others and used by the licensee or applicant of a
8 nuclear power plant and whose failure could trigger
9 the failure of the plant's emergency cooling
10 systems or flood protection, thereby endangering
11 the plant. Now, that's the most succinct
12 statement. If it's incorrect because it's been
13 modified or changed or something, tell me, because
14 that's the statement of applicability that --

15 MR. PETTIS: What's the date on that?

16 CHAIRMAN RAY: Let's see, I can --

17 MR. PETTIS: It sounds --

18 CHAIRMAN RAY: I can look it up, I'm
19 trying to see if I have it here.

20 MR. PETTIS: Okay.

21 CHAIRMAN RAY: It was forwarding to us
22 the revised --

23 MR. PETTIS: The Rev 2?

24 CHAIRMAN RAY: Yes. The revision after
25 our 2012 meeting asking if we needed to meet again

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1 before you sent it out for public comment. We
2 responded, no.

3 MR. PETTIS: Yes. There's some words
4 that you just read that sound dated to me.

5 CHAIRMAN RAY: Okay.

6 MR. PETTIS: And they may be in here,
7 but I don't think so. And that was the word
8 specifically, that was specifically built or
9 something.

10 CHAIRMAN RAY: Built by others and used
11 by.

12 MR. PETTIS: Yes.

13 CHAIRMAN RAY: Okay. And like I say,
14 that's in a public document, a Memo that was sent
15 to us --

16 MR. PETTIS: Right.

17 CHAIRMAN RAY: -- saying we've done this
18 major rewrite -- oh, it's the September 2013 Memo.

19 MR. PETTIS: Okay.

20 CHAIRMAN RAY: I don't have the day, but
21 I can find it.

22 MR. PETTIS: Right, 2013. So --

23 CHAIRMAN RAY: Yes.

24 MR. PETTIS: -- I'm probably accurate in
25 saying that it's dated because --

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1 CHAIRMAN RAY: All right. Then how
2 would you change --

3 MR. PETTIS: -- that's been removed.

4 CHAIRMAN RAY: -- what I read. What's -
5 -

6 MR. PETTIS: That's been removed.

7 CHAIRMAN RAY: -- been removed?

8 CHAIRMAN RAY: -- what I --

9 MR. PETTIS: Those words specifically
10 built for --

11 CHAIRMAN RAY: Built for or built by
12 others and used by.

13 MR. PETTIS: Right. We went ahead and -
14 - scope was a big issue in 2012 with the Committee.
15 And that's one of the --

16 CHAIRMAN RAY: Yes, it was. And that's
17 why we're focusing on it now.

18 MR. PETTIS: Right.

19 CHAIRMAN RAY: And you're still only on
20 Slide 1 or 2. And that's --

21 MR. PETTIS: Well, I could --

22 CHAIRMAN RAY: -- because --

23 MR. PETTIS: I could go quicker, but --

24 CHAIRMAN RAY: Well, no, you couldn't.
25 Because we're talking about what is important here

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1 and trying to find out when to best do that is
2 difficult. Let me read you from the Purpose
3 Statement of the Reg Guide we have in front of us.

4 MR. PETTIS: Okay.

5 CHAIRMAN RAY: Reg Guide describes an
6 acceptable inspection and monitoring program for
7 water-control structures. Water-control structures
8 include those used in the emergency cooling water
9 system and those relied upon for flood protection.
10 Now, there's nothing there that says the ones
11 relied upon for flood protection are only those
12 that were built as part of the plant and,
13 therefore, that seemed consistent with what I read
14 you from September 2013. Okay? Now, that's right
15 out of your Purpose Statement. And those relied
16 upon for flood protection.

17 MEMBER BLEY: And I think the key to all
18 this discussion is if it's not that general, let us
19 know. Because there are places in it you can read
20 it as having some --

21 MR. PETTIS: That's exactly what --

22 CHAIRMAN RAY: Yes, I mean, having said
23 what was said in the September 2013 Memo and then
24 reading that here --

25 MR. PETTIS: They're consistent --

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1 CHAIRMAN RAY: -- what I just read to
2 you is the last sentence of the Purpose Statement,
3 we didn't recognize that there had been any backing
4 away from structures that were built by others by
5 used for flood protection.

6 MEMBER SCHULTZ: And then if you go with
7 John's logic statement, follow that trail, then you
8 come to the conclusion and questions that we
9 discussed earlier.

10 CHAIRMAN RAY: Well, I agree with Bob
11 that the 2012 discussion was way beyond --

12 MEMBER SCHULTZ: No, no, but --

13 CHAIRMAN RAY: Oh, you mean --

14 MEMBER SCHULTZ: -- these are comments -
15 -

16 CHAIRMAN RAY: -- comments here?

17 MEMBER SCHULTZ: -- he made last night.

18 CHAIRMAN RAY: Yes.

19 MR. PETTIS: Yes, the --

20 CHAIRMAN RAY: I still think a
21 coordination agreement though, Steve, is maybe --
22 which was what I took away from the comment about
23 the similarity between a grid operation
24 coordination agreement and a flood protection
25 structure coordination agreement. A coordination

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1 agreement within the scope of this Reg Guide would
2 be for purposes of inspection and monitoring as
3 opposed to operation.

4 MEMBER SCHULTZ: Correct.

5 CHAIRMAN RAY: Okay.

6 MEMBER SCHULTZ: I agree with that.

7 CHAIRMAN RAY: Go ahead, Bob.

8 MR. PETTIS: What I was going to say was
9 the statement that we have in the Staff regulatory
10 guidance in Section C, which talks about the
11 applicability to water-control structure, part of
12 the nuclear power plant and whose failure could
13 either cause site flooding or failure of the
14 plant's emergency cooling systems. The
15 interpretation of that does include onsite,
16 offsite, water-control structures, which is the
17 reason why we had put in the provision that for the
18 offsite structures that are not under the
19 jurisdiction of the licensee, they could go to the
20 comparable inspection option, which basically says
21 TVA or FERC has complete control over that
22 facility. And for purposes of this Guide, we can
23 assure that they're using a comparable inspection
24 program.

25 MEMBER BLEY: I understand what you're

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1 saying. I could see you having arguments though
2 with people who say, to me part of the nuclear
3 power plant means I own it.

4 MEMBER BALLINGER: Yes, this is a key
5 phrase which is really open to -- you've
6 interpreted it one way, but, boy, it can be
7 interpreted literally other ways.

8 MEMBER BLEY: Well, they --

9 MR. PETTIS: You make the final cut on
10 it, I mean.

11 MEMBER BALLINGER: They get the final
12 cut, but it ought to be made clearer in the
13 document --

14 CHAIRMAN RAY: Again --

15 MEMBER BALLINGER: -- what part of the
16 nuclear power plant is.

17 CHAIRMAN RAY: Again, Ron, I think to me
18 it was clear until now because of what was said in
19 the Memo forwarding it to us before it went out for
20 public comment. And what was said was, structures
21 built by others and used by. And that seemed
22 consistent to me with what was said in the Reg
23 Guide.

24 MEMBER BALLINGER: Well, why not just
25 put that in there then?

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1 MEMBER BROWN: Well, no, but hold it,
2 the first paragraph of C says effectively what
3 Harold just went through. I mean, it talks about
4 that pretty clearly. The Reg Guide applies only to
5 water-control structures which are part of the
6 power plant and --

7 CHAIRMAN RAY: Stop, stop, stop.
8 Listen. Which are part of the nuclear power plant.
9 That's the contrast with the statement, built by
10 others and used by. Built by others and used by
11 are not part of the nuclear power plant.

12 MEMBER BLEY: At least to our way of
13 thinking, but to Bob's way of thinking they are if
14 they're used by the power plant.

15 CHAIRMAN RAY: Well, I'm --

16 MEMBER BLEY: Which is a big stretch.

17 CHAIRMAN RAY: I'm not sure, I didn't --

18 MEMBER BLEY: He said that was embodied
19 somewhere else.

20 MEMBER BROWN: And that's why now I
21 don't find it. I agree with you. I don't find the
22 built by others in the --

23 MEMBER BLEY: It's not there.

24 MEMBER BROWN: -- in the Reg Guide
25 itself.

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1 MR. PETTIS: Yes, we had taken that out,
2 especially because it was that word specifically,
3 that's why I said I thought that was dated.

4 CHAIRMAN RAY: Well, I --

5 MR. PETTIS: Maybe the word part of a
6 nuclear power plant might be better said that --

7 MEMBER BLEY: Supports the nuclear power
8 --

9 MR. PETTIS: -- which are used --

10 CHAIRMAN RAY: Yes.

11 MR. PETTIS: -- by the nuclear power
12 plant.

13 MEMBER BLEY: That would work for me.

14 MR. PETTIS: As opposed to being part --
15 part of it may infer that we're talking about
16 finite within the protected area of the facility so
17 to speak or within the licensee controlled area of
18 the -- well, we're talking about water-control
19 structures that are either onsite or offsite and
20 managed by other state or federal inspection type
21 programs. So they're needed for the plant, they're
22 used for the plant, but they're not part of the
23 plant. And --

24 CHAIRMAN RAY: Well, that, again --

25 MR. PETTIS: -- maybe that might make it

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1 easier.

2 CHAIRMAN RAY: -- the purpose, I didn't
3 see any problem with the Purpose Statement because
4 it says water-control structures include, and
5 there's no more explicit definition of
6 applicability than this, water-control structures
7 include those used in emergency cooling water
8 system and those relied upon for flood protection.

9 MEMBER BLEY: And that's the last
10 sentence of the first paragraph --

11 CHAIRMAN RAY: Yes.

12 MEMBER BLEY: -- of the whole thing.

13 CHAIRMAN RAY: So when I read back here
14 the words that are in, I guess it's in C, wherever
15 in the hell --

16 MEMBER BLEY: Yes, that's in C.

17 CHAIRMAN RAY: Yes, the first sentence,
18 which part of the nuclear power plant, I thought
19 that wasn't intended to constrict the applicability
20 of the Reg Guide. Again, all we're talking about
21 is an acceptable means of inspection and
22 monitoring. So it's not like we're talking about
23 operating somebody else's facility. It's just,
24 here's an acceptable means of monitoring something
25 that could affect the plant. And it never dawned

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1 on me that we weren't talking about facilities that
2 were not part of the -- that we were excluding
3 facilities that were not part of the nuclear power
4 plant, which I guess you could take away from this
5 paragraph in C. Right, Dennis?

6 MEMBER BLEY: Right. And the way Bob
7 phrased it recently, used by, would solve that
8 problem, for me anyway.

9 CHAIRMAN RAY: Yes. Well, like I say, I
10 don't -- I think the last sentence of the Purpose
11 Statement is perfectly fine.

12 MEMBER BLEY: Yes, it is.

13 CHAIRMAN RAY: I don't have any --

14 MEMBER BLEY: It's the later
15 restrictions --

16 CHAIRMAN RAY: -- dilemma with it --

17 MEMBER BLEY: -- seeming restrictions
18 that caused us problems.

19 CHAIRMAN RAY: Okay. Well, all right.
20 Let's say, we're now an hour into this thing, we
21 haven't gotten very far, but we've accomplished a
22 lot from my standpoint, which is at this moment in
23 time at least, and I welcome more clarification
24 from you guys, but at this moment in time, I guess
25 I'm of the opinion that we have a concern relative

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1 to applicability as to whether or not it includes
2 things other than those described in the beginning
3 of Paragraph C, which are limited to structures
4 which are part of the nuclear power plant.

5 Because I read even that sentence to
6 say and whose failure could either cause flooding,
7 what comes after the and not be another criteria
8 for things in the nuclear power plant, but I
9 misread it to apply to things that were not part of
10 the nuclear power plant, but whose failure could
11 affect it. And again, that was because I had read
12 these other things and I thought we were clearly
13 not limiting ourselves just to the nuclear power
14 plant facility.

15 MEMBER BALLINGER: There's a connecting
16 sentence here, which jumped out at me in some
17 discussion. The first paragraph, last sentence in
18 the first paragraph. In addition, the design of
19 features used for inspecting and monitoring these
20 structures should be such that these activities can
21 be performed following a design basis event. Which
22 could be flooding, could be earthquake, could be
23 everything.

24 CHAIRMAN RAY: Yes. But when you're
25 talking about scope of facilities, I don't think

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1 that adds anything, does it?

2 MEMBER BALLINGER: Well, what it means
3 is that structures built by others that affect the
4 plant have to be inspectable after a design basis
5 event.

6 CHAIRMAN RAY: Well, read it again
7 please?

8 MEMBER BALLINGER: In addition --

9 CHAIRMAN RAY: I remember it, I think,
10 but go ahead.

11 MEMBER BALLINGER: In addition, the
12 design features used for inspecting and monitoring
13 these structures, whatever they are, should be such
14 that these activities can be performed following a
15 design basis event.

16 CHAIRMAN RAY: All right. But these
17 structures, I would now say, may just be those that
18 are part of the nuclear power plant. The phrase,
19 these structures.

20 MEMBER BALLINGER: Oh, okay. I -- okay.

21 CHAIRMAN RAY: So anyway, look, we have
22 -- I don't think it's going to change if we sit
23 here and talk about it for two more hours. We have
24 a dilemma here and so the takeaway from this
25 meeting, unless we resolve it somehow, is that the

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1 applicability remains unclear.

2 MEMBER RICCARDELLA: Well, Bob suggested
3 some words that sounded like that we agreed with
4 them if he's going to --

5 MEMBER BALLINGER: Well, that's on the
6 transcript.

7 CHAIRMAN RAY: Obviously, he can --
8 changes can be made, but normally we would not try
9 and negotiate changes --

10 MEMBER BROWN: Well, the words that you
11 read from in the Memo from --

12 CHAIRMAN RAY: September 2013.

13 MEMBER BROWN: -- those are even better.
14 It says explicitly those built by others that could
15 affect.

16 CHAIRMAN RAY: Or used by.

17 MEMBER BROWN: Or used by, something
18 like that. But those are even better to be --

19 CHAIRMAN RAY: Well, and --

20 MR. PETTIS: How about something
21 completely different?

22 CHAIRMAN RAY: Let's move on unless
23 there's something new on this topic. We'll just
24 leave it as an issue that we couldn't --

25 MEMBER SKILLMAN: I believe there is

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1 something new on this topic. I'm going to start
2 with a paragraph under A, this Regulatory Guide
3 describes a method, and the final sentence is
4 water-control structures include those used in the
5 emergency cooling water system and those relied
6 upon for flood protection.

7 CHAIRMAN RAY: Where are you?

8 MEMBER BLEY: It's the sentence you've
9 read.

10 MEMBER SKILLMAN: I'm --

11 CHAIRMAN RAY: That's the sentence I
12 read, yes.

13 MEMBER SKILLMAN: Yes. But I didn't
14 jump in that because I was --

15 CHAIRMAN RAY: Okay.

16 MEMBER SKILLMAN: -- waiting my turn in
17 line.

18 CHAIRMAN RAY: Yes. Go ahead.

19 MEMBER SKILLMAN: We have at least one
20 plant in the United States and maybe more that had
21 important to safety water-control structures that
22 are not included in this sentence. That is Oconee,
23 that is Keowee. And Oconee was designed without
24 emergency diesel generators. And then the early
25 design dependent upon the Keowee. If you recall,

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1 there was a complete system test, integrated test,
2 to confirm that, that system that is basically a
3 hydro pelton wheel with a ring-in runner would
4 supply the emergency AC 4160 for that plant.

5 So, I would challenge if it's -- you
6 said this is forward looking, I get it. But if a
7 plant under Part 52 chooses to choose an alternate
8 method of providing emergency AC power and chooses
9 hydro, then this sentence excludes that new design.
10 And so if you want to be able to inspect a hydro
11 system that might be chosen as the 4160 emergency
12 AC power, then this sentence needs to include words
13 to the effect, any emergency system, not just
14 emergency cooling.

15 MEMBER BLEY: Seems to me you need that
16 hydro driven generator to provide AC power for
17 emergency cooling, so it's already there.

18 MEMBER SKILLMAN: I don't agree with
19 that. They --

20 MEMBER BLEY: You do, don't you? You
21 can't provide emergency cooling water without that
22 generator.

23 MEMBER SKILLMAN: You may provide
24 emergency cooling water simply because you're able
25 to run a siphon. You might not even need a pump in

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1 some of these designs. You have enough head. You
2 can have passive cooling. And so, I'm trying to
3 make my point here, there's at least one plant and
4 there could be more, that actually rely upon a
5 water-control structure in order to produce
6 electrical power.

7 CHAIRMAN RAY: Okay. Well, I think
8 that's noted. I mean --

9 MEMBER SKILLMAN: Really?

10 CHAIRMAN RAY: -- we can debate. Huh?

11 MEMBER SKILLMAN: Steve just said
12 Vermont Yankee did the same thing. All I'm saying
13 is --

14 CHAIRMAN RAY: Okay.

15 MEMBER SKILLMAN: -- that sentence needs
16 an expansion to include not just cooling, but also
17 where water is used for AC power, any emergency
18 system.

19 CHAIRMAN RAY: Well, certainly, if we
20 were writing a regulation, that's correct. Being a
21 Reg Guide, maybe that's a unique circumstance that
22 you're describing, maybe not, I don't know. But in
23 any event --

24 MEMBER SKILLMAN: Well, that's why I
25 asked about applicability.

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1 CHAIRMAN RAY: -- the comment is
2 recognized and accepted that this doesn't include,
3 explicitly at least, conceding Dennis's point, it
4 doesn't explicitly include the structures that
5 provide emergency AC power. And so that's noted.

6 MEMBER SKILLMAN: Okay, thanks.

7 CHAIRMAN RAY: Okay. Anything else?
8 Okay. New topic.

9 MEMBER BROWN: No, I just wanted to make
10 sure I understood relative to this. I wanted to
11 close it, but under the implication in that one
12 paragraph about only those that are onsite that
13 we've ben talking about, the special inspection
14 paragraph does talk about for water-control
15 structures owned, operated, or regulated by others
16 and relied upon or taken credit for by the
17 licensee, as part of the plant's licensing basis,
18 the licensee should verify. That very clearly
19 leaps into the realm that was reflected in your
20 Memo, although it's countered somewhat by the words
21 that are under the special -- so there's two places
22 that --

23 CHAIRMAN RAY: And where are you,
24 Charlie?

25 MEMBER BROWN: I'm on Page 14, Paragraph

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1 9C, Subparagraph 2. That's a new paragraph that
2 was over and above the previous -- about the middle
3 of the page.

4 CHAIRMAN RAY: Yes. All right.

5 MEMBER BROWN: So that very clearly
6 addresses what was in the Memo --

7 CHAIRMAN RAY: That's right.

8 MEMBER BROWN: -- yet, they're excluded
9 by the earlier --

10 CHAIRMAN RAY: Or they could be read --
11 I didn't read them to be excluded, but --

12 MEMBER BROWN: I didn't either, but
13 since you brought it up, now --

14 CHAIRMAN RAY: Yes.

15 MEMBER BROWN: -- those seem to be
16 inconsistent.

17 CHAIRMAN RAY: Or another way to say it
18 is, are we clear enough that we do -- this Reg
19 Guide does apply to these structures described --

20 MEMBER BROWN: Yes, I think --

21 CHAIRMAN RAY: -- here?

22 MEMBER BROWN: I think you'd need to fix
23 that first, very first paragraph somehow to be
24 consistent with what's back in here in the
25 inspection paragraph. That's personal opinion.

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1 MR. PETTIS: Are you talking about --

2 CHAIRMAN RAY: Yes. But one thing --
3 let me follow up with Charlie here just for a
4 second. This, of course, could be said to be an
5 add-on to the issue of design for inspectability
6 because it doesn't say really that you need to do
7 anything other than verify with the owner of such
8 structures that the occurrence of such unusual
9 events did not impact the structure's ability. It
10 really doesn't talk about design for inspection and
11 monitoring, which is the subject of the Reg Guide.
12 It's more of a statement about for things that you
13 don't inspect and monitor, if there's an occurrence
14 of an unusual event, then you need to verify with
15 the owner the condition of the plant. So I'm not
16 sure that it does what we're talking about, which
17 is design of structures so that they can be
18 inspected and monitored, even if they are --

19 MEMBER BROWN: Well, it's referred to as
20 a special inspection. That means, how do you
21 confirm that the other guy's -- do you just go into
22 his office and say, is it okay? And they say, oh,
23 yes, it's just fine, don't worry about it. And you
24 walk out and everybody's happy.

25 CHAIRMAN RAY: Well, maybe, yes.

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1 MEMBER BROWN: I just think there's
2 enough inconsistency that we ought to make sure
3 those two paragraphs don't conflict.

4 CHAIRMAN RAY: Okay.

5 MEMBER BROWN: That's all.

6 CHAIRMAN RAY: Understood. All right,
7 Dennis has been wanting to move on. Go ahead.

8 MR. PETTIS: Well, when you said it
9 conflicts with the first paragraph, first one under
10 Purpose, is that the first paragraph?

11 MEMBER BROWN: The one that we were --

12 CHAIRMAN RAY: No, the one under C.

13 MEMBER BROWN: The one under C.

14 MR. PETTIS: Under C, okay.

15 CHAIRMAN RAY: Yes. Because it's
16 talking about nuclear plant --

17 MEMBER BROWN: Where it says --

18 CHAIRMAN RAY: -- here we're obviously -
19 -

20 MEMBER BROWN: -- nuclear plants only.
21 The one that says nuclear plants only.

22 MR. PETTIS: Right. That's C, right.
23 Part of a nuclear plant.

24 MEMBER BROWN: Yes.

25 CHAIRMAN RAY: Yes. So, I think we need

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1 for you guys to decide what you really intend and
2 then we ask the question, is it clear, number one,
3 and number two, do we agree that, that's enough?
4 But as we sit here right now, I'm not -- I don't
5 want to try and press you any further about, well,
6 what the heck do we intend here? Because we
7 thought we understood coming in and now we are not
8 so sure. And that has to do with the
9 applicability. If there's anything more on
10 applicability, let's get it here now and not come
11 back to it later. But if there's not, let's move
12 on. If that's all right with everyone.

13 MEMBER BROWN: I presume we're going to
14 agree to disagree on the word design in the title
15 of this thing, which we've also hammered a couple
16 of times.

17 MEMBER BLEY: We've let them know what
18 we think.

19 MEMBER BROWN: Yes, that's fine. Okay.
20 I just wanted to make sure we --

21 CHAIRMAN RAY: We've all independently
22 come up with the same comment.

23 MEMBER BROWN: It was easy.

24 CHAIRMAN RAY: Okay. But anyway, let's
25 move on. Dennis, you wanted to take up a new

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1 something?

2 MEMBER BLEY: Something completely
3 different, yes. On Page 6, still in Section C, you
4 have a section on inspection of inaccessible areas,
5 and this is kind of a question on did you say what
6 you meant? First, it says, for plants with non-
7 aggressive raw water and ground waters soil, pH
8 greater than 5.5, chlorides less than 500, or
9 sulfites less than 1,500. Did you mean that to be
10 an or? Or should it be an and? That's the first
11 question.

12 MEMBER BALLINGER: That's a good point.
13 Because there are, within each state, there are
14 definitions of what constitutes acceptable potable
15 raw water. Chloride concentration is a variable.
16 In some states it's 100 ppm and in some states it's
17 obviously 500.

18 CHAIRMAN RAY: But potable is not the
19 issue here.

20 MEMBER BALLINGER: Well, raw water.

21 CHAIRMAN RAY: Yes.

22 MEMBER BALLINGER: Raw water.

23 MR. PETTIS: We'll have to go back and
24 look at that one.

25 MEMBER BLEY: Okay. And the second part

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1 of this is, the way I read this section and John
2 did, it seems to provide guidance only for
3 inspection of inaccessible areas at plants which
4 have non-aggressive raw water or ground water.
5 What if you have aggressive water and ground water,
6 there's no guidance? Did you mean it that way?
7 Maybe that's another one to go look at.

8 MR. PETTIS: We'll have to go back.
9 There were --

10 MEMBER BLEY: Or maybe something got
11 dropped.

12 MR. PETTIS: There were several
13 technical chefs in the kitchen --

14 (Laughter.)

15 MEMBER BLEY: No doubt. And there might
16 have been an editor --

17 MR. PETTIS: -- while this was put
18 together.

19 MEMBER BLEY: -- who knocked out a
20 paragraph that you needed or something.

21 MEMBER BALLINGER: The next two
22 sentences kind of contradict that actually.

23 MEMBER BLEY: Yes. That's why -- just
24 make sure you got what you wanted there. I don't
25 think you do.

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1 CHAIRMAN RAY: You got anything else?

2 MEMBER BLEY: I have something.

3 CHAIRMAN RAY: We can run down --

4 MEMBER BLEY: Oh, no, we did this.

5 CHAIRMAN RAY: -- do a slide or two.

6 MEMBER BLEY: I'll come back later.

7 CHAIRMAN RAY: Okay.

8 MEMBER BLEY: I think most of his slides
9 we've already gone over.

10 CHAIRMAN RAY: Well, we may have, but
11 that doesn't matter, we have to go through the
12 slides because we may have not covered everything.

13 MR. PETTIS: Okay.

14 CHAIRMAN RAY: And we certainly need to
15 give them an opportunity to make their
16 presentation. So let's go ahead.

17 MR. PETTIS: Okay. On that purpose of
18 revision slide, just to go over some of those
19 bullets, in the August 2015 version. Again, most
20 of these upgrades or updates are due to the fact
21 that the Reg Guide is 35 or so years old. We're
22 bringing it up to current state of the art
23 knowledge, consolidating federal guidelines, some
24 harmonization with NRC Staff positions, focusing on
25 applicable NRC regulations. I mean, the main thing

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1 there is adding Part 52, obviously the old version
2 was just Part 50 plants. Provides design and
3 inspection guidance, we took out a lot of history
4 and --

5 MEMBER BROWN: That was interesting.

6 MR. PETTIS: -- and replaced --

7 MEMBER BROWN: Excuse me.

8 MR. PETTIS: Yes, sir?

9 MEMBER BROWN: I actually thought that
10 was kind of interesting reading where they actually
11 provided examples of -- because after that you have
12 a listing of the types of things that need to be
13 looked for, from CB spillways, overgrown -- but
14 they provided, hey, we're not dreaming this stuff
15 up, there are actual historical failures that did
16 that. And I'm kind of a history, why do we have
17 stuff, not history, but I mean from this standpoint
18 on the technical, why do we have certain things?
19 That kind of cemented, okay, why are we paying this
20 much attention? Here's all these little details,
21 there's real failures, they've really happened, and
22 they were because of these things that were not
23 paid attention to.

24 And then you go into the -- the old
25 Guide went on into some details. And then that was

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1 all deleted from this. So you just kind of
2 summarized it now in three or four categories, like
3 you did statistics, 34 percent were in this
4 category, overtopping, flooding the spillway,
5 foundation was 30 percent, seepage was 20 percent,
6 remaining were a variety of things. And that
7 seemed to be subsumed in those. I kind of thought
8 the history was illuminating to me.

9 I don't know if anybody else felt the
10 same way, but it provided concrete examples that
11 we're just not dreaming this stuff up out of the
12 blue and why it's important. Personally, I would
13 have retained a little bit of the historical
14 context for the requirements or the guidance that
15 we were incorporating in the Reg Guide. That's a
16 personal opinion, but I don't know if the rest of
17 the Committee or the Subcommittee would agree with
18 that, but that's --

19 MR. PETTIS: Well, as you can see from
20 the redline strikeout version, there was quite a
21 bit of history and who struck who and so forth.

22 MEMBER BROWN: Well, I've still got the
23 old version right here. The redline strikeout, I
24 lost track of what was going on between all the red
25 lines. So I just went back and compared both of

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1 them side-by-side, paragraph-by-paragraph to see
2 what was retained and not retained.

3 MR. PETTIS: Yes.

4 MEMBER BROWN: Painful, but --

5 (Laughter.)

6 MR. PETTIS: The goal was to try to
7 streamline the Reg Guide and make it a little less
8 --

9 MEMBER BROWN: Why it went from nine
10 pages --

11 MR. PETTIS: -- cumbersome.

12 MEMBER BROWN: -- to 20, right?

13 MR. PETTIS: I mean, I like detail, but
14 sometimes it's just not necessary. And
15 collectively, that was the decision that was made.

16 MEMBER BROWN: Well, it's in the record,
17 so I'll bring it up if we're going to have further
18 consideration.

19 MR. PETTIS: Okay. The next slide just
20 talks about some of those federal guidelines.
21 Obviously we have the FEMA, this Publication 93,
22 which we used to some degree. That has been
23 updated several times since it was issued in 1979.
24 It does contain some guidance on water-control
25 structures. And FEMA guidance was incorporated

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1 into NUREG-0800, the SRP. One point that we talked
2 about, I think, back in 2012 that kind of got us
3 off the track here was this NRC FERC dam inspection
4 program. And I just want to, just for the record,
5 that has nothing to do with this Reg Guide. That's
6 where we went off and started talking about things
7 that are not applicable to the Reg Guide.

8 MEMBER BLEY: Bob?

9 MR. PETTIS: Yes, sir?

10 MEMBER BLEY: That last bullet, you
11 actually updated the SRP as well as the Reg Guide?

12 MR. PETTIS: We didn't physically update
13 the SRP.

14 MEMBER BLEY: I misread that.

15 MR. PETTIS: But there's been guidance,
16 at least from our dam safety folks. Next slide.
17 Reg Guide 1.127, revised to agree with Staff
18 guidance. We just listed a couple. Reg Guide
19 3.11, although it's for uranium recovery
20 facilities, has design construction and inspection
21 guidelines. NUREG-0800, the SRP, in Section 2.54,
22 talks about stability of subsurface materials and
23 foundations, stability of slopes. And there's
24 multiple NRC inspection procedures, which we
25 referenced in the Reg Guide, that have some

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1 connection with the Reg Guide 1.127. Next slide.

2 Applicable NRC regulations, again, the
3 main regulation is GDC 45. We also have 10 CFR
4 50.34, contents of applications. We added 10 CFR
5 Part 52, with respect to new reactors. We have
6 some provisions in there under 52.47, 79 and 137 to
7 bring the Reg Guide up to current standards. Next
8 slide. This Reg Guide provides applicants and
9 licensees with the most current guidance when
10 developing an in-service inspection and
11 surveillance program. That's the whole purpose of
12 it.

13 Applicable for applicant's design and
14 inspection for new water-control structures up to
15 existing licensees as to how they would apply the
16 Reg Guide under their inspection program. They
17 could do it under 10 CFR 50.59 if they'd like, as
18 discussed in Section D of the Reg Guide. So,
19 again, there's no back-fitting here. New plants
20 would use this, the Part 52 plants and NRO would
21 reference this. I'm almost afraid to read this,
22 but the title change in GDC 45 specified that the
23 structure shall be designed to permit appropriate
24 inspection, which is what Tim was saying earlier.
25 And that the water-control structure should be

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1 designed to ensure that inspections could be
2 performed.

3 CHAIRMAN RAY: The problem isn't with
4 the use of the word design. The problem is with
5 the use of the word and. In other words, if it
6 didn't say design and inspection criteria, but said
7 design criteria to enable inspection or something
8 close to what was -- I don't want to try and
9 compose it here. But the problem is with the word
10 and, the and makes the words design and inspection
11 separate with respect to criteria, so you're
12 looking for design criteria, you can't find it.

13 What you're really looking for is the
14 design criteria for design to enable inspection and
15 monitoring. And it's just -- that's the only
16 problem. I don't think we should labor over it
17 excessively because it's clear enough when you look
18 at the Reg Guide that it's talking about inspection
19 and monitoring and not the design of structures
20 otherwise. But I would suggest you guys think
21 about it just because everybody here at the table
22 has stumbled over this thinking where is the design
23 criteria for the structure, aside from inspection?
24 I don't know if anybody wants to add to that.

25 MEMBER BROWN: I thought there were

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1 public comments on that also. I thought there was
2 a public comment and they gave the same answer they
3 just gave to us in terms of the --

4 MEMBER SCHULTZ: That was editorial.
5 I'll give you a suggestion later.

6 MEMBER RICCARDELLA: In ASME Section 11,
7 we used the term design for inspectability. You
8 could use a term like that.

9 CHAIRMAN RAY: Yes. That's the problem.
10 It isn't the word design that's the problem.

11 MEMBER SCHULTZ: Yes. It's where it's
12 placed, that's all.

13 CHAIRMAN RAY: GDC 45 says designed to
14 permit the appropriate periodic inspection. That's
15 what GDC 45 says. And there's no ambiguity about
16 that. But speaking about public comments, there
17 was a comment that resulted in the removal of
18 guidance about remote monitoring instrumentation.
19 And I think this might be a time to talk about that
20 since public comment was mentioned. The
21 explanation that the agency gave was the guidance
22 relative to remote monitoring instrumentation did
23 not add value to the Regulatory Guide and it's been
24 deleted. Why did that happen?

25 MR. PETTIS: It was just a decision that

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1 the tech staff made. Actually it was pretty much
2 myself and one other individual and we looked at
3 the comments. And, again, you could leave it in
4 and basically say that the Staff agrees that it
5 should be left in because it is a Reg Guide. So, I
6 mean --

7 CHAIRMAN RAY: Yes, all it said was the
8 use --

9 MR. PETTIS: -- if you want to use it,
10 you use it. But I guess we took a kinder, gentler
11 approach and basically said, okay, there is some
12 merit to the comment because the commenter brought
13 up the instrumentation issue and the fact that it
14 most likely would have to be safety-related Seismic
15 Category I type instrumentation that you're talking
16 about. And it's just a little burdensome. And
17 again, this is a Reg Guide, so we could have it in
18 there and say, no, if you want to use it, you use
19 it, if not, you're not.

20 CHAIRMAN RAY: Yes. It --

21 MR. PETTIS: But we decided to take it
22 out, but we could easily revisit that and --

23 CHAIRMAN RAY: Well, I don't -- the
24 Committee may have a comment on that ultimately.
25 But what was taken out was the use of remote

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1 monitoring instrument should be considered to
2 provide remote access and alert for a wide variety
3 of requirements. I understood what the commenter
4 went on to say and what your rationale for taking
5 it out was, but in the sense that it is something
6 that should be considered, I guess I'm not of the
7 opinion that it doesn't add value, because maybe
8 it's -- well, I'm trying to find some other words
9 to use, but it should be considered sounds like a
10 useful thing to include in a Reg Guide, but you
11 guys went the other way and I just wanted to give
12 you a chance to explain it further if you wished.

13 MR. PETTIS: Yes. That was put into the
14 Rev 2 version, that wasn't in the Rev 1 version.
15 But that was added. And, again, we could always go
16 back and take a look and revisit the merits of it.
17 But I'm of the opinion, it doesn't really make much
18 difference what we put in the Reg Guide.

19 CHAIRMAN RAY: Well, in that case, we're
20 probably not usefully spending our time here
21 either, but we're doing it, so we may as well get
22 what we can out of it.

23 MR. PETTIS: I mean, we could easily
24 leave it in.

25 CHAIRMAN RAY: Yes.

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1 MEMBER BROWN: Well, your (c)8 again
2 talks about the new item you put in and it talks
3 about in addition to the guidance provided herein,
4 instrumentation, monitoring, inspection of dam
5 should meet the guidance and federal guidelines, et
6 cetera, et cetera. It should include incorporating
7 appropriate design provisions to conduct the
8 inspection and monitoring programs. I mean,
9 there's a reference to complying with other federal
10 guidelines for dam safety in terms of
11 instrumentation. And it seems to me at (c)8 that
12 you -- I mean, I went through that one as well, why
13 it was deleted, or (c)7, excuse me, that the remote
14 -- I mean, there are various methods of monitoring
15 your equipment.

16 I mean, you run out to the dam up here
17 and read a couple of gauges somewhere or whatever
18 it is, if you've got a canal that you want to make
19 sure it's dry so there's no seepage, how do you do
20 that? Do you have a guy run out and do that or do
21 you have some method of doing that where you don't
22 have to have some guy run out? A lot of that's not
23 very complicated, it doesn't add a lot of cost of
24 anything. But it's up to somebody -- it just
25 seemed to me it was left out for no good reason. I

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1 didn't really agree with you all's, didn't add
2 value. People should consider at least what's
3 going to enhance the ability to maintain the
4 monitoring of the dams and other water-control
5 structures for either leakage or failures or what
6 have you.

7 CHAIRMAN RAY: Well, there's a question
8 about urgency also that --

9 MEMBER BROWN: Yes.

10 CHAIRMAN RAY: In other words, is this
11 something that has potential for creating some kind
12 of a threat that you need to respond to rapidly in
13 order to mitigate it? We think -- Watts Barr was
14 mentioned here. We did go through Watts Barr's
15 site when we reviewed its operating license and
16 looked at the time they had to deal with the issues
17 that they have to deal with at that site in the
18 event of flooding. I mean, we understand how to do
19 that, but not everybody has as much time as we
20 agreed they did have to deal with flooding on that
21 site. So I would be inclined -- I mean, the phrase
22 should be considered is sufficient as far as I'm
23 concerned. But if you wanted to elaborate on it,
24 you could say it should be considered in the event
25 of potentially the need for urgent action to be

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1 taken or something like that. But in any event,
2 you've given us your feedback on that and that's
3 fine.

4 MEMBER REMPE: Could we explore the
5 comment a little more? Because at the end of the
6 comment, it said the concern was that this
7 instrumentation might have to be safety-related and
8 Seismic Category I. And so it might be that the
9 comment also could have been addressed by leaving
10 it in and saying that some of this instrumentation
11 doesn't have to be or is not necessarily going to
12 be required to have that level of rigor associated
13 with it. And why was that not explored?

14 MEMBER SCHULTZ: Well, the assumption --

15 MEMBER BROWN: Well, it seems to me that
16 -- go ahead, Steve.

17 MEMBER SCHULTZ: The assumption is one
18 by the commenter.

19 MEMBER REMPE: Right. And maybe that
20 assumption is incorrect and maybe the commenter is
21 asking for additional clarification. Maybe you
22 were too kind and too gentle, maybe you should say
23 it should be considered, but maybe add some
24 clarification that not all instrumentation needs to
25 have that level of rigor would be another way of

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1 addressing the comment.

2 MEMBER SCHULTZ: It would be another
3 approach.

4 MEMBER REMPE: Yes.

5 MEMBER BROWN: I think it -- the reason
6 I thought it was important, if you look at the
7 inspection schedule, I mean, it devolves from the
8 initial inspections when the dams are built and
9 filled, et cetera, and then it goes to one year and
10 then after some period it goes to two years and
11 then another period it goes up to a minimum of five
12 years. So, I mean, that's a fairly long interval
13 for somebody to go out and check to see, hey, if
14 there's water leaking out of a hole somewhere --
15 I'm being a little bit, I'm extrapolating a little
16 bit with that.

17 But it seems to me that the intervals
18 for inspections can be fairly lengthy and that some
19 methods of determining whether there's a sliding of
20 an embankment or some loss of -- or overflow or
21 spillage or whatever might be useful for somebody
22 to consider, depending on the type of dam. So
23 that's why I -- that in conjunction with the other
24 words about the frequency seemed to me to at least
25 give people some thought about what type of dam you

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1 had.

2 CHAIRMAN RAY: We're going to go ahead
3 and have the Staff finish up its slides. But then
4 we'll take a break, come back, and wrap up the
5 meeting sometime shortly after that. I expect it
6 will be by 11:00 or so. But rather than -- we've
7 interrupted you so much, it sounds silly to say,
8 but rather than interrupt you more now, why don't
9 you go ahead and complete your slides and then
10 we'll take a brief break.

11 MR. PETTIS: Yes, let's skip that one,
12 we've already beat that on up, design and
13 inspection. The next to the last slide, I guess,
14 is this design features. Reg Guide 1.127 contains
15 recommendations for design and inspection of water-
16 control structures that are part of the nuclear
17 power plant located onsite or offsite.

18 CHAIRMAN RAY: That's perfect because --
19 (Laughter.)

20 CHAIRMAN RAY: It's another variant of
21 the applicability thought.

22 MR. PETTIS: Well, the slides were
23 generated as a result of the --

24 CHAIRMAN RAY: The part of the nuclear
25 power plant located onsite or offsite is another

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1 way of thinking about it. You can say that the
2 offsite, of course, is designed by others but
3 relied upon by the plant. Anyway, go ahead.

4 MR. PETTIS: Okay. We can go to the
5 last one here. Public comments. Well, I mean, we
6 provided the public comments. There were one set
7 of comments, there's a total of 15 individual
8 comments, although they're not annotated that way,
9 they all kind of run together. But just to give
10 you a little sense of the comments, out of the 15,
11 we did not agree with three of the comments, which
12 were 11, 13, and 15. And, again, they're not
13 annotated, so you have to go through and physically
14 do it yourself. So no changes were made to the Reg
15 Guide as a result of three of the 15 comments.

16 But we did make changes that were
17 applicable for the balance of comments, 6 through
18 10, 12 and 14. So the bulk of the comments, we
19 derived some convergence there and went ahead and
20 incorporated it into the Reg Guide. And then the
21 last slide is more of a conclusion, I guess. We go
22 back to Reg Guide 1.127 issued in 1978. Rev 1 was
23 issued in 1977, just for historical purposes.
24 We're up to necessary due to new NRC regulations
25 and enhanced safety and inspection programs

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1 required by current federal guidelines. And Reg
2 Guide 1.127 eliminates conflicting guidance in NRC
3 docs on this topic. So the need to get it final, I
4 think it's time to do that.

5 CHAIRMAN RAY: Well, we're going to
6 certainly work with you to try and get that done
7 here shortly. What I'd like to do is we'll break
8 until 10:30. During that time, if there's anything
9 that you guys want to add on the subject of
10 applicability in the record, please be prepared to
11 say that after we come back. That might help us in
12 what we ultimately have to do in writing a letter,
13 if that's decided upon by the full Committee. We
14 do have this on the agenda of the full Committee,
15 you will be asked to talk about that topic for sure
16 at that time. And so, it's best to try and bring
17 it to closure so that we don't get into iteration
18 unnecessarily.

19 But if there are any other topics,
20 again, I'd like to take a break here, but we're not
21 by any means transitioning into closure, if there
22 are other questions that members have for the
23 Staff, we can address them after the break. So
24 it'll give you a chance to think about that. And
25 then we'll have the usual public comment period if

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1 there are any, and I know one of the Staff
2 management is on the line, any comments there. And
3 then we'll discuss among ourselves how to present
4 this at the full Committee meeting in December if
5 we conclude as I assume we will that we need to do
6 that. So, with that, we'll recess until 10:30.

7 (Whereupon, the above-entitled matter
8 went off the record at 10:12 a.m. and resumed at
9 10:33 a.m.)

10 CHAIRMAN RAY: Okay, we are back on the
11 record and we will resume the subcommittee meeting
12 where we left off.

13 I know members have some questions they
14 would like to ask yet, but first let me ask if
15 there's any comment staff wants to make following
16 the break. If not, we'll go to questions that the
17 members have.

18 MR. LUPOLD: Tim Lupold. I'll make a
19 couple comments. I truly appreciate that a lot of
20 these were very good discussions that we had here
21 and we've got some very good comments. We
22 understand the issue regarding applicability.

23 It was out intent to make this
24 applicable to structures that are on site and off
25 site and whether they were owned, or not owned, by

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1 the licensee. Now it's going to be our mission to
2 go back and make sure that the words reflect that.
3 Obviously we didn't do a good enough job.

4 CHAIRMAN RAY: Thank you.

5 MR. LUPOLD: Design, the title. Yeah,
6 we had some of those discussions at the tech level
7 and we'll go back and revisit that. I think we can
8 probably come up with some better words for the
9 title there.

10 The history section, that was a good
11 comment. The history section does provide a lot of
12 insights into why you're doing things and things
13 like that. We'll consider that. I'm not going to
14 say we will or we won't add anything to it but
15 we'll take it back and talk about it and consider
16 it and see if we should do that.

17 There is that comment regarding the
18 non-aggressive environment. That was a very good
19 comment and a very good catch. We do need to go
20 back and look at that. I can't remember off the
21 top of my head whether that should be an "and" or
22 an "or" but I know we have used criteria similar to
23 that for inspection of concrete structures in the
24 license renewal area so we'll go back and check
25 that.

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1 What pursued from that regarding
2 whether or not we need something if it is an
3 aggressive environment is excellent. I don't know
4 how we missed that but we'll need to go back and
5 look at that and probably add something in
6 associated with what happens if you have an
7 aggressive environment there. Unless it turns out
8 that we've addressed it somewhere else in the Reg
9 Guide but I'm not sure that we have.

10 The reference regarding the remote
11 monitoring, we'll take that back and, again, talk
12 about that with the technical staff also and
13 consider that and see if we need to keep that in or
14 whether it's okay to leave it out. I
15 think those were the key highlights that we talked
16 about up to this point.

17 CHAIRMAN RAY: Very good. As you know,
18 this is currently on the agenda for the December
19 meeting. Don't try and answer this now but if
20 that's not going to work for you given the things
21 that you've said, let us know as soon as you can.

22 I can't schedule things for the full
23 committee but February would be the next meeting
24 after that. As far as I know, it's not overly
25 burdened with agenda items. Again, I'm not in a

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1 position to say when it might go to the full
2 committee if it doesn't go in December. It's now
3 scheduled in December.

4 MR. LUPOLD: Okay. thank you.

5 CHAIRMAN RAY: All right. With
6 that, let's resume having members continue to ask
7 questions or make further comments that they wish
8 to make.

9 Joy, I think you wanted to begin.

10 MEMBER REMPE: Yes, I apologize. I
11 should have gotten this in on slide 9 but there was
12 one comment made by the public regarding -- it was
13 a comment on Section 6(c) about clarification on
14 what the earthquake was, that it was linked to an
15 earthquake above a 5 magnitude.

16 The comment was requesting that they
17 actually have some sort of minimum earthquake
18 magnitude level or some specific information that
19 would be a trigger for when you needed to do
20 something.

21 The staff response was that we've
22 clarified this and we are now revising it to
23 suggest that post-earthquake stability assessments
24 should be performed following a seismic event
25 considered to be significant for the water

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1 controlling structure. I'm not sure that is still
2 linking it to something that is specific. Maybe I
3 don't understand what this is something that is
4 more specific than what it was before. Is that
5 really addressing the comment and why?

6 MR. PETTIS: That was the comment that
7 had to do with why the word "significant" was
8 deleted.

9 MEMBER REMPE: Right. But the response
10 back was that it still has in there "significant."
11 Right?

12 MR. PETTIS: Yes, we just polished up
13 the wording and made it a little bit more vague.

14 (Laughter)

15 MEMBER REMPE: I think it used to be a
16 little less vague.

17 MR. PETTIS: That was by design, not by
18 accident. Again, I think it had to do with us
19 being very prescriptive with respect to what level
20 of seismic event would have to take place. We
21 didn't want to do that.

22 MEMBER REMPE: Maybe the response back
23 to the public should be we don't want to because
24 rather than to say we tried to resolved this by
25 making it as vague as it was before.

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1 MR. PETTIS: We don't respond directly
2 to the public comments.

3 MEMBER REMPE: This is the resolution
4 document that we had comments.

5 MR. PETTIS: Yes, right. This was just
6 our internal matrix to document that we addressed
7 the comments in some fashion.

8 MEMBER BROWN: Well, you did revise.
9 Something was changed.

10 MEMBER REMPE: It was revised but it
11 wasn't clear, in my opinion, is what I'm trying to
12 say.

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1 MEMBER BROWN: The words are now
2 similar to what was in there before. Isn't the
3 word "significant" in the initial Rev. 1? That's
4 what I had --

5 MR. PETTIS: Right. That was in Rev. 1
6 but the "significant" was redefined and we have
7 some other words in there.

8 MEMBER BROWN: You just put it back in.
9 It says, "Following a seismic event considered to
10 be significant for the water control structure,"
11 whereas before you had used, "Earthquake stability
12 assessment using residual strength of soils", etc.,
13 etc., etc. There was some more detail in terms of
14 what they should look at and you deleted that and
15 you incorporated words into 6(b). 6(c) is no
16 longer there so I didn't know what 6(c) was other
17 than what the public comment rephrased.

18 MR. PETTIS: You're talking
19 specifically about the comment?

20 MEMBER BROWN: Yeah, there was a
21 comment 6(c), the one that Joy is referring to. It
22 talked about sustainability assessments and it says
23 6(c)(b) in brackets, "Change title from stability
24 assessment to sustainability." Then, "The content
25 of position is similar. Added a requirement for

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1 post-earthquake stability assessment..."

2 This is public comment. "...using
3 residual strength of soils composing the
4 embankments." This position stated "is linked to
5 an earthquake of undefined magnitude." They didn't
6 like that and you said we agree. We went back and
7 changed the second paragraph, 6(b), to just use the
8 word "significant" or added that to the second
9 paragraph, the second subparagraph.

10 I thought that is what Rev. 1 said, it
11 just used the word "significant." The old special
12 inspections paragraph used to say, "Special
13 inspections should be performed immediately after
14 dam is passed and usually large floods and after
15 the occurrence of significant earthquakes, floods,
16 hurricanes, tornadoes, etc."

17 So you kind of defaulted back to the
18 original word "significant" but took out
19 hurricanes, tornadoes, floods, rainfalls, and other
20 unusual events. It just seemed to be a little bit
21 more nebulous.

22 MR. PETTIS: That's public comment 9.

23 MEMBER BROWN: There's no 9 in the list
24 you all provided.

25 MR. PETTIS: It's on page 7. It's the

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1 second one up from the bottom of the page.

2 MEMBER REMPE: Right. The answer
3 really is that you agree it's vague but you would
4 like to keep it that way basically is what I think
5 I'm extracting from the discussion here.

6 MR. PETTIS: Well, we can obviously go
7 back and take another look at that.

8 MEMBER BROWN: The sentence before -- I
9 mean, the whole paragraph talks about liquefaction
10 of soil, embankments, and certain publications
11 should be used for conducting post-earthquake
12 stability assessments. Then you said the
13 assessments should only be performed following a
14 seismic event considered to be significant which is
15 -- I never saw the initial 6(c) other than what was
16 quoted, the part of it.

17 CHAIRMAN RAY: You said significant
18 leaves it nebulous, Charlie?

19 MEMBER BROWN: No. They changed it
20 apparently to take out the "significant" before.
21 There was a different paragraph. I inferred from
22 the public comment that there was a (c) (6) (c) that
23 implied they had to do some analyses
24 post-earthquake but left it with an undefined
25 earthquake so they have now modified the language

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1 in 6(b).

2 They deleted 6(c) and modified the
3 language in (b), or incorporated the paragraph in
4 (b), I'm not sure which, and used the word
5 "significant" in terms of things. That's the same
6 words that were in Rev. 1.

7 CHAIRMAN RAY: Right. And is that
8 problematic, you think?

9 MEMBER BROWN: I didn't have a big
10 problem with that. It's kind of vague but it
11 allows an assessment of this licensing basis versus
12 that one.

13 CHAIRMAN RAY: Again, my thought on it
14 is if you don't put in some qualifier then, as we
15 all know, there is a spectrum of earthquakes that
16 go all the way down below what is sensible, what is
17 detectable practically speaking. Personally,
18 and it's just personally, significant is fine as
19 far as I'm concerned. I just didn't want to give
20 them the wrong impression.

21 MEMBER REMPE: Do you think it's fine
22 to be vague that way?

23 CHAIRMAN RAY: Yes.

24 MEMBER REMPE: The commenter is saying
25 "I would like more specific guidance," and they

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1 responded back, "We've addressed it but we left it
2 significant as undefined." That may be fine if
3 that's what you want to do but then clarify we
4 think it's better to be vague because?

5 CHAIRMAN RAY: Well, because to be
6 precise is equally difficult. Are we talking about
7 zero period ground motion or are we talking about
8 magnitude of earthquake 20 miles away? I mean, I
9 thought that the commenter was saying, "I'm going
10 to be out there every day because I have an
11 earthquake every day."

12 MEMBER REMPE: Right.

13 CHAIRMAN RAY: That isn't what we
14 intend or what makes any sense.

15 MEMBER REMPE: But couldn't you tie it
16 to a ground --

17 MEMBER BROWN: Hold it Joy, just a
18 minute. Joy, they did. The commenter said, "The
19 level of assessment effort should not be triggered
20 by..." This is the commenter, "...should not be
21 triggered by a seismic event which is barely
22 detectable on site when the structures had to be
23 designed to OBE and SSE." If it had been me
24 instead of using the word "significant," I probably
25 would have used the words "shut down earthquake" or

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1 -- what is the OBE?

2 CHAIRMAN RAY: Operating basis
3 earthquake.

4 MEMBER BROWN: I'm not so sure I would
5 have done the SSE but the operating basis
6 earthquake I would have probably put a kind of
7 little wall right there. But they didn't. They
8 used the word "significant" and I kind of
9 defaulted. In my own mind I thought that was okay.

10 CHAIRMAN RAY: The reason why I
11 wouldn't do that is you don't really know how these
12 off-site structures are designed. OBE and SSE
13 makes sense to the plant but what sense does it
14 make for some structure that's upstream of you
15 that's retaining flood water? I felt significant
16 allowed NRC inspectors or anybody to say, "Listen,
17 we think this meets the test of a significant
18 event," rather than trying to define it in terms
19 that make sense for some off-site structure.

20 MEMBER REMPE: So it would have been
21 good to have that in the response back on why they
22 left it vague and all that. Again, I appreciate
23 having the opportunity to discuss it here.

24 CHAIRMAN RAY: Yeah, sure. What he
25 said, of course, is that those responses aren't

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1 what is sent back to them.

2 MEMBER SCHULTZ: This is the rationale
3 associated with the decision making. I think
4 significant is appropriate for the very reason --

5 MEMBER BROWN: And I thought the
6 regional -- the guys at the plant, the regional
7 inspectors, they can make a decision and they can
8 argue with the licensee.

9 MR. PETTIS: Like Mr. Rice said, a lot
10 of these terms like OBE and SSE mean nothing to a
11 60-year-old concrete structure that was built by
12 the Corps of Engineers. Again, when we looked at
13 these comments from the public, we try not to make
14 more out of them than what they are. We try to
15 respond, "Okay. Here's what we're going to do."
16 Then we move on.

17 MEMBER REMPE: I appreciate hearing the
18 rationale.

19 MR. PETTIS: We have time constraints
20 on getting these things put together and it's just
21 a judgment call between the tech staff. Sometimes
22 we like to err on the side of being a little bit
23 less specific.

24 MEMBER REMPE: I just was curious so I
25 appreciate the discussion on it.

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1 MR. PETTIS: Sure. Great. Thank you.

2 CHAIRMAN RAY: More similar items need
3 to be --

4 MEMBER BROWN: I had a -- I just have a
5 different question not related to this. In terms
6 of the -- they have all these inspections called
7 out. Is it part of the NRC's region or on-site
8 inspectors of these types of dam inspections or
9 other inspections -- you've looked at a bunch of
10 IPs.

11 Is that part of their routine auditing
12 that the dams get inspected and have the one year,
13 two year, four year, whatever? Is that within
14 their purview? I mean, I don't know how the IPs
15 are executed on site and at the regional offices.
16 I've forgotten.

17 MR. PETTIS: Yeah, those IPs that we
18 put in there were primarily IPs that the regional
19 office would do in its inspection, their periodic
20 inspection of the plant.

21 MR. LUPOLD: Some of the IPs that are
22 done by the regions are periodic. Some are event
23 driven. Like you might get one out there for
24 adverse weather conditions or adverse weather
25 protection that the resident inspector would up and

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1 do when there is a pending storm which is forecast.

2 It would come up at the plant. They
3 might pull that out and do that inspection to make
4 sure that the licensee is ready for that. Other
5 ones are done periodically. Heat sink performance
6 is done periodically. I can't remember the
7 specific frequency. It might be three years.

8 MEMBER BROWN: I'm not worried about --

9 MR. LUPOLD: But that's a periodic one.

10 MEMBER BROWN: I'm just trying to
11 figure out -- there is a whole list of -- the whole
12 thing is about inspections of dams, etc., etc.,
13 etc. If you read it the way I read this, this is
14 stuff that the licensee is suppose to do from a
15 guidance standpoint unless it's part of his
16 licensing basis. Then there is more rigor
17 associated with it.

18 MR. LUPOLD: Just trying to answer your
19 question. Some are periodic and some aren't.

20 MEMBER BROWN: My curiosity was how
21 sensitive are the local residents in the region to
22 -- is it part of their checklist to come through
23 and say, "The guy did this inspection," or redid
24 that or redid that or what have you. It was part
25 of his overall site operations.

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1 MR. LUPOLD: Unfortunately, we're not
2 the right people to give you the answer to that
3 question.

4 MEMBER BROWN: Okay. That's an answer.

5 MR. PETTIS: We're pretty confident
6 that the regional inspection series that they
7 perform over a period of a couple years includes
8 reviews of heat sink performance and those type.

9 I guess, Tom, would it be safe to say
10 that these are part of the ROP?

11 MR. BOYCE: Yes, it's safe to say it's
12 part of the ROP. I think the specific term you're
13 looking for is are they part of the baseline
14 inspection program or were they reactive
15 inspections. I agree with Tim that we don't really
16 know that answer with the people we have here. We
17 can get the answer if you need it.

18 MEMBER BROWN: I'm not trying to mouse
19 milk this too far. I'm just trying to be educated
20 a little bit so I know a bit more about the plant.
21 That's all.

22 MR. BOYCE: And the utilities, of
23 course, you are not required to execute those
24 inspections. A lot of the plants like to know what
25 they will be inspected for.

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1 MEMBER BROWN: That's why I was asking
2 who -- if that's what they may expect and does
3 anybody ever do that. That's why I asked the
4 question.

5 MR. LUPOLD: I can tell you that the
6 regional inspectors are out there inspecting these
7 structures and we do get questions at headquarters
8 from them about acceptability of certain conditions
9 and issues.

10 I've gotten questions from Region II
11 specifically on control systems, on dams, on ones
12 that are on site, questions on what their
13 responsibility is for those dams that are not part
14 of the NRC dams that we're responsible for. There
15 are some dams on site that we use the FERC
16 inspectors to inspect. Then there are other things
17 that the resident inspectors will inspect.

18 MEMBER SCHULTZ: Okay. Are the
19 resident inspectors in the regions then going to be
20 using this new revision to inform their inspection
21 program, or is the inspection program specifically
22 designed from the general design criteria?

23 MR. PETTIS: Well, these would be
24 available to the NRC inspectors on site.

25 MEMBER SCHULTZ: But does it inform

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1 them? Have they reviewed what has been done here
2 to say this is really going to be helpful for us to
3 better understand what we ought to be doing in the
4 inspection process?

5 MR. PETTIS: It's guidance for both the
6 staff and guidance for the licensee. I'm sure if
7 the licensee commits to using it, then it becomes
8 part of the inspection basis when the resident or
9 the region is out there doing it.

10 MR. LUPOLD: Do you know if any of
11 these inspection procedures that we've referenced,
12 to they reference back to this reg guide? I don't
13 know off the top of my head without pulling them
14 out and looking at them.

15 CHAIRMAN RAY: Well, reg guide are
16 typically used by anybody and everybody as a
17 reference for an acceptable condition. In this
18 case we're talking about inspection and monitoring.
19 But primarily it's the licensing basis of the
20 licensee that is the basis for inspections I would
21 judge.

22 Any other comments from members to the
23 staff? Any questions or comments I mean? Other
24 wise, we'll move to thank the staff and proceed
25 with our other steps before closure. Anything

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1 else? If not, thank you very much. Let us know
2 how you would like to proceed whether in December
3 or later.

4 MR. LUPOLD: Thank you. We'll let you
5 know.

6 CHAIRMAN RAY: With that, Girija, would
7 you open the phone line?

8 MR. SHUKLA: There's no one on the
9 phone.

10 CHAIRMAN RAY: All right. There was --

11 MR. SHUKLA: He has gone.

12 CHAIRMAN RAY: He's gone? All right.
13 Okay. With that, then, we'll go around the table
14 and conclude any comments by members. In many any
15 comments, I would appreciate if you would opine on
16 -- if you wish to do so, on whether you think this
17 doesn't need to go -- we presume it's going to go
18 to full committee at some point in the next month
19 or soon.

20 Opine on whether you think it's
21 sufficient at this juncture and doesn't need to go
22 to the full committee. Of course, the full
23 committee will design whether a letter is needed or
24 not. If you think it doesn't need to go to full
25 committee for any reason, I would appreciate that

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1 input.

2 Pete.

3 MR. RICCARDELLA: No comment.

4 CHAIRMAN RAY: Gordon.

5 MEMBER SKILLMAN: Harold, I do not
6 think this needs to go to the full committee. I
7 agree that there have been a lot of changes but
8 when I look at the new words compared to the prior
9 version, at least as a guy that's been over 20
10 years out in the plants, this does not strike me as
11 something that is new, unusual, or remarkable. It
12 certainly wouldn't have rattled me if this landed
13 in my office and the resident showed up and someone
14 showed up from region. I would say, "Yes,
15 this is what we're going to do anyways." So from
16 my perspective as an ex-industry person, this is
17 not a surprise. In my role as an ACRS member, I
18 honestly don't think this rises to the level of
19 requiring full committee. Thanks.

20 CHAIRMAN RAY: Okay.

21 Steve.

22 MEMBER SCHULTZ: Well, I think today
23 there has been several discussion items and
24 comments that should result in some clarifications
25 or modifications to the document. So I think there

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1 needs to be a bring-back in some form, whether
2 that's a bring-back to the subcommittee for
3 consideration and whether it then goes to the full
4 committee seems to be a next step in the decision
5 making.

6 In other words, I think if we had sat
7 here and discussed the document and had no
8 questions or comments, perhaps we wouldn't
9 recommend it to go to the full committee but
10 another step needs to take place. Whether that's a
11 subcommittee meeting or just to go right to the
12 full committee with a presentation perhaps that
13 would be appropriate. Then, as you said, Harold,
14 the full committee could decide whether to write a
15 letter or not.

16 CHAIRMAN RAY: Thank you.

17 Joy.

18 MEMBER REMPE: I wasn't at the first
19 subcommittee back in 2012 but my understanding of
20 the process was that there were a lot of questions
21 raised and then apparently the staff said something
22 to ACRS saying they were going to revise this
23 document because of the issues raised. Then they
24 went forward and revised it, sent it out for public
25 comment, and here we are today.

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1 The comments raised today were in many
2 ways similar to what was raised before; what is the
3 scope of this reg guide? It's unclear and there
4 are many members of the subcommittee meeting before
5 said, "Hey, this is a substantial revision. You
6 need to address these issues about applicability."
7 I'm questioning in my mind if you don't have
8 something come back from the staff again saying we
9 are going to address this, the reg guide would be
10 issued.

11 It doesn't seem to be issued very often
12 so it will be issued in a vague manner still. I
13 would wait and see what comes back before the staff
14 before I would pull a full committee meeting off
15 the agenda because I think, you know, not to be
16 controversial but the staff could if we don't say
17 we are going to have this meeting in December go
18 ahead and issue it.

19 I think there were some questions
20 raised on what structures this applies to. Yeah,
21 okay, it doesn't get used very often obviously from
22 what we've heard today, but why not get it right if
23 we're going to do it. That's why you should wait
24 until you hear from the staff before you make the
25 judgment of pulling it off the agenda. I know we

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1 often have something on the agenda that doesn't
2 happen so that's where I'm at on it.

3 CHAIRMAN RAY: Charlie.

4 MEMBER BROWN: I agree with Steve that
5 there's some open-ended stuff. A couple of
6 ambiguities have been identified that we had
7 considerable discussion on so I would leave it on
8 the agenda for right now. Or we need another step.
9 Either that or get it resolved some other way.

10 CHAIRMAN RAY: Thank you.

11 Ron.

12 MEMBER BALLINGER: I agree with Steve
13 and others. We have to get some clarity on some of
14 the ambiguities here. If the way to do it is to
15 have another step, then we need to take another
16 step.

17 CHAIRMAN RAY: Thank you.

18 Dennis.

19 MEMBER BLEY: I appreciate all the work
20 they've done since we saw this last time and the
21 discussions today. I, too, would either like to
22 see a revised draft with a short subcommittee
23 meeting to look at it or take it to full committee.

24 CHAIRMAN RAY: Okay. I guess where I
25 come out on it is it's on the full committee

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1 agenda. That is an opportunity for the staff to
2 say what they want to say about issues that have
3 been raised today. To have another subcommittee
4 before going to full committee, whether that full
5 committee is as scheduled now in December or later,
6 seems to me probably unnecessary.

7 Therefore, I would say the next step,
8 which many have referred to, should be full
9 committee. Right now it's set for December. If we
10 can make it in December that's what we should do.
11 It will stay that way unless you guys would prefer
12 to delay it because of the things you indicated you
13 wanted to look at.

14 At whatever time it goes to full
15 committee whether a letter is written or not will
16 depend, I think, very much on what is presented
17 then as well, of course, what the committee members
18 feel having heard it. It isn't just a matter of
19 clarification. I think there is -- recognizing
20 this is merely guidance and we don't need to repeat
21 all that, but there is a question about
22 applicability.

23 Not just the clarity of applicability
24 but what is the applicability that could be the
25 reason why the full committee decides we should

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1 write a letter about this. There are other
2 reasons, too, but that is perhaps the principal
3 one.

4 So we will leave it. I don't believe
5 there's any question that the subcommittee is not
6 recommending as a subcommittee as a whole that we
7 not take it to the full committee. Right now it
8 will remain in December unless you guys would like
9 a little more time, in which case we'll certainly
10 try and accommodate that.

11 Okay. Everybody good for the record?
12 We will stand adjourned.

13 (Whereupon, the above-entitled matter
14 went off the record at 11:02 a.m.)

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Regulatory Guide 1.127, Revision 2

Design and Inspection Criteria for Water Control Structures Associated with Nuclear Power Plants

**ACRS Subcommittee Meeting
November 18, 2015**

Robert Pettis, P.E., NRR/DE/EMCB



Purpose of Revision

- RG 1.127, Rev. 1 issued 1978.
- RG 1.127, Rev. 2 (8/2015)
 - Identifies and consolidates Federal guidelines.
 - Standardizes with existing NRC staff positions.
 - Focuses on applicable NRC regulations.
 - Provides design and inspection guidance.
 - Removes unnecessary history.
 - Replaces outdated references.



Rev. 2 of RG 1.127 Consolidates Federal Guidelines

- Federal Emergency Management Agency (FEMA)
 - FEMA Publication 93, “Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams,” first issued in 1979.
 - Updated multiple times since 1979.
 - Currently contains guidance on types of water control structures (WCS), not just dams.
 - FEMA guidance incorporated into NRC Inspection Procedures, NUREG-0800 (the SRP), and similar guidance documents.



Rev. 2 of RG 1.127 Standardizes With Existing NRC Staff Positions

- RG 1.127 revised to agree with staff guidance in other NRC documents including:
 - RG 3.11, “Design, Construction, and Inspection of Embankment Retention Systems at Uranium Recovery Facilities”.
 - NUREG 0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” Section 2.5.4, “Stability of Subsurface Materials and Foundations” and Section 2.5.5, “Stability of Slopes”.
 - Multiple NRC Inspection Procedures.



Rev. 2 of RG 1.127 Focuses on Applicable NRC Regulations

- General Design Criterion 45, “Inspection of Cooling Water System,” in Appendix A of 10 CFR Part 50
 - Requires cooling water system be designed to permit the appropriate periodic inspection of important components to ensure the integrity and capability of the system.
- 10 CFR 50.34(a)(4) and 10 CFR 50.34(b)(4)
 - Require applicants provide an analysis and evaluation of the design and performance of structures, systems, and components.
- Added 10 CFR Part 52 regulations



Rev. 2 of RG 1.127 Focuses on Applicable NRC Regulations-Cont.

- RG provides applicants and licensees with the most current guidance when developing an inservice inspection and surveillance program for WCS associated with emergency cooling water systems. Applicable for applicants' design and inspection programs for new WCS; up to existing licensees as to how they would apply the RG (i.e., could modify the design and inspection program under 10 CFR 50.59), as discussed in Section D of the RG.
- Title change since GDC 45 specifies that structures “shall be designed to permit appropriate periodic inspection..” RG states that WCS be designed to ensure inspections could be performed.

Rev. 2 of RG 1.127 Contains Design and Inspection Guidance

- RG 1.127 Scope clarified applies to dams, slopes, canals, reservoirs, and related water channels which are part of the nuclear power plant and whose failure could either cause site flooding, the failure of the plant's emergency cooling systems, or otherwise endanger the plant.



Rev. 2 of RG 1.127 Recommends Design Features and Inspections

- RG 1.127 contains recommendations for design and inspection of water control structures that are part of the nuclear power plant located onsite or offsite.
- Includes embankments and other appurtenant structures associated with or part of a WCS typically built to provide or protect the UHS.



Rev. 2 of RG 1.127 Addressed Public Comments

- Rev. 2 of RG 1.127 was issued for public comment as DG-1245 on January 23, 2015. (80 FR 3661).
- Only one set of comments received and addressed. Most comments editorial in nature.
- Comments incorporated in RG 1.127, as applicable.



Rev. 2 of RG 1.127 - Conclusion

- Rev. 1 of RG 1.127 was issued in 1978.
- Rev. 2 necessary due to new NRC regulations and enhanced safety and inspection programs required by current Federal guidelines for dams and other WCS.
- Revision of RG 1.127 eliminates conflicting guidance in NRC documents on this topic.



Rev. 2 of RG 1.127



Questions?

