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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS**

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

OCTOBER 19, 2000

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This transcript has not been reviewed, corrected and edited and it may contain inaccuracies.

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UNITED STATES

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

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SUBCOMMITTEE ON PLANT LICENSE RENEWAL

Thursday, October 19, 2000

U.S. NRC

11545 Rockville Pike

Room T2-B1

Rockville, Maryland

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

[8:30 a.m.]

CHAIRMAN BONACA: The meeting will now come to order. This is the first day of the meeting of the ACRS Subcommittee on Plant License Renewal.

I am Mario Bonaca, Chairman of the subcommittee. ACRS members in attendance are Vice Chairman Robert Seale, Thomas Kress, Graham Leitch, John Sieber, William Shack, and Robert Uhrig.

The purpose of this meeting is for the subcommittee to hear presentations by the staff and the Nuclear Energy Institute concerning drafts of the standard review plan for license renewal, the generic aging lessons learned report, the draft regulatory guide DG-1104, standard format and content for applications to renew nuclear power plant operating licenses, and NEI-95-10, Revision 2, industry guideline for implementing the requirements of 10 CFR Part 54, the license renewal rule.

The subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full committee.

Mr. Noel Dudley is the cognizant ACRS staff engineer for this meeting.

The rules for participation in today's meeting

1 have been announced as part of the notice of this meeting  
2 previously published in the Federal Register on October 4,  
3 2000.

4 A transcript of this meeting is being kept and  
5 will be made available as stated in the Federal Register  
6 notice. It is requested that speakers first identify  
7 themselves and speak with sufficient clarity and volume so  
8 that they can be readily heard.

9 We have received no written comments or requests  
10 for time to make oral statements from members of the public.

11 The ACRS reviewed and commented on the staff's  
12 review of two license renewal applications. The staff  
13 presented the ACRS with an overview of the draft guidance  
14 documents during the August 29-September 1, 2000 ACRS  
15 meeting.

16 We discussed the draft guidance document at the  
17 October 5 and 7, 2000 ACRS meeting, and provided the staff  
18 with an outline of our concern.

19 Today we will hear a more detailed presentation  
20 regarding the guidance documents. We also provided the  
21 staff, in the past, with a set of criteria that the ACRS  
22 will focus its review on and, hopefully, in the course of  
23 the two days, we will hear about the perspective of the  
24 staff on those seven criteria that we set.

25 With that, we will now proceed with the meeting

1 and I call upon Christopher Grimes, Chief of the License  
2 Renewal and standardization Branch, to begin.

3 Mr. Grimes.

4 MR. GRIMES: Thank you, Dr. Bonaca. I would like  
5 to start off by noting that we're still in the process of  
6 assembling the public comments, including the industry  
7 comments and comments from the Union of Concerned Scientists  
8 on the proposed guidance.

9 We've had a substantial amount of general public  
10 opposition in nuclear power comments that arose from a  
11 misrepresentation of what this action represented in some  
12 media coverage in California.

13 But we need to sort all those comments out in  
14 preparation for a Commission meeting on December 4 and as we  
15 get the comments assembled, we'll share that with the ACRS,  
16 as well.

17 The presentation that the staff is going to  
18 proceed with today will focus primarily on the exchange that  
19 we had with the NEI license renewal task force on the  
20 original issuance of the guidance last December, when we  
21 held our first workshop, and we also had the benefit of a  
22 subsequent workshop that was held on September the 25th and  
23 to the extent that we got feedback during that workshop,  
24 we'll share that information with the subcommittee, as well.

25 I'm going to begin by introducing Dr. P.T. Kuo, at

1 my right, who is the Section Chief who has led this effort,  
2 and Dr. Sam Lee, who has been the Team Leader who has  
3 admirably mustered the forces of the staff to work an  
4 extremely aggressive schedule to pull together credit for  
5 existing programs in a way that we can share that with the  
6 Commission in December.

7 With that, I'll turn the meeting over to Dr. Lee.

8 MR. LEE: Good morning. My name is Sam Lee. I'm  
9 from the License Renewal and Standardization Branch, NRR.

10 In your handout is the agenda for today and then  
11 we have the second pages for tomorrow. And like Chris  
12 Grimes indicated, this effort on the improved license  
13 renewal guidance document has been a significant agency  
14 effort. It involved NRR staff doing the license renewal  
15 reviews, and, also, the Office of Research and Brookhaven  
16 and Argonne National Labs as contractors.

17 And today and tomorrow, many of them will be here  
18 to make a presentation and answer your questions.

19 As an introduction we issued four documents in  
20 August for public comment. The comment period ended October  
21 16 and, like Chris indicated, we are still in the process of  
22 sorting out the comments, and the four documents are the  
23 generic aging lessons learned report, the GALL report, the  
24 standard review plan, the SRP, the reg guide, and the NEI  
25 industry document 95-10.

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1           As background, why we embarked on this effort,  
2 during the review of the initial license renewal  
3 applications, both the NRC and industry recognized that many  
4 of the license renewal programs are existing programs.

5           So NEI submitted a letter characterizing this  
6 issue as credit for existing programs. As a result, we  
7 prepared a SECY paper, 99-148, with options and  
8 recommendations for the Commission to consider to improve  
9 the efficiency of the license renewal process.

10           As a result, the Commission, through a staff  
11 requirements memorandum, directed the staff to prepare the  
12 GALL report that would document the basis for the acceptance  
13 of the aging management program, and to prepare an SRP that  
14 will reference the GALL report and then focus the staff  
15 review in areas where existing programs would be augmented.

16           And we are to prepare these documents with  
17 stakeholder involvement and to brief the Commission on  
18 public comments received, and we are to provide these  
19 documents to the Commission for final approval.

20           And after we have additional review experience  
21 with license renewal applications, we are to return to the  
22 Commission with recommendations for any need for rulemaking  
23 to further enhance the license renewal process.

24           The GALL report is the technical basis document  
25 for the SRP. The SRP provides the guidance for the staff to

1 do a review of license renewal applications. The reg guide  
2 endorses, proposes to endorse NEI-95-10, which provides  
3 guidance to an applicant to prepare a license renewal  
4 application.

5 And we have involved stakeholders early on, as  
6 Chris indicated. Back in last December, we provided an  
7 early draft of the GALL report in a workshop and, subsequent  
8 to that, we also provided an early draft of the SRP to the  
9 public.

10 NEI provided significant comments on these  
11 documents. As a result, we've held many public meetings  
12 with NEI to discuss their comments and you will hear the --  
13 today and tomorrow, you will hear some of the NEI comments.

14 And let me say, NEI comments today and tomorrow,  
15 those are comments before August. We haven't sought out the  
16 NEI comments as a result of this public comment period.  
17 And we also received five reports from the Union of  
18 Concerned Scientists, five technical reports, and we have  
19 considered them in the GALL report, and you will hear about  
20 that later on in the presentation today.

21 DR. SHACK: Sam, those public comments, are they  
22 available on the web site in raw form?

23 MR. LEE: They are not on the web site. It's like  
24 a foot of paper, and they are in ADAMS, if you can find it.

25 MR. GRIMES: We will offer to extract them from

1 ADAMS for you, if you'd like us to get the raw comments for  
2 the subcommittee.

3 DR. SHACK: I wanted a sample of the comments.

4 MR. LEE: Just information, I guess. We counted  
5 about 700 comments from NEI. So it's quite a bit of  
6 comment. And like Chris indicated, we just had a workshop  
7 last month and at that workshop, we discussed tests. We had  
8 that during the public comment period and some of the issues  
9 we discussed are like the format.

10 The GALL report now has a rather cumbersome page  
11 format. You have two pages, you have to line things up and  
12 if you put it on the web, you only see one side, you can't  
13 see the other side. So it's very difficult to, I guess,  
14 handle.

15 So one of the topics discussed at the workshop was  
16 can we condense this table into a one-page format, still  
17 retain the information, just a format change. And some of  
18 the issues discussed are like are there alternative programs  
19 that are equally acceptable in GALL for older plants versus  
20 new plants.

21 So the things that we have to consider. So that  
22 was a pretty helpful workshop. And these documents are  
23 supposed to be consistent with each other, the GALL, the  
24 SRP, Reg Guide 95-10, but because GALL and SRP were  
25 evolving, NEI intends to make further changes to 95-10 to

1 ensure consistency.

2 MR. GRIMES: Sam, if I could add to that. There  
3 was an NEI license renewal workshop earlier this week,  
4 second annual event, where they gather together the primary  
5 industry groups that are interested in pursuing license  
6 renewal and a main theme that came out from the feedback  
7 that we got during that workshop is that the industry  
8 believes that there is room for further integration of the  
9 standard review plan and GALL and opportunities to make the  
10 guidance consistent.

11 And the concern that they expressed is that the  
12 guidance is developed largely based on newer plant designs  
13 and FSARs and they wonder whether the guidance would be as  
14 useful for pre-GDC plants, where the older plant designs  
15 don't have the same level of detail or program description  
16 in their licensing bases.

17 So that's going to be a major challenge for us in  
18 resolving the comments, is a means to make GALL and the  
19 standard review plan even more consistent and integrated and  
20 applicable to the whole fleet of plants across the country.

21 MR. LEE: Here is the schedule that we are on.  
22 Like Chris indicated, this is a very aggressive schedule.  
23 We issued these documents in August, as originally  
24 scheduled. We have a workshop and we are here briefing the  
25 ACRS and we are scheduled to provide a Commission briefing

1 on the public comments received on December the 4th. That's  
2 the latest date we have now.

3 And we have to provide the document for Commission  
4 final approval March of 2001, and July 2001, we are to  
5 provide recommendations to the Commission for any need for  
6 rulemaking to further enhance the license renewal process.

7 DR. SHACK: Do you have any tentative thoughts on  
8 rulemaking yet?

9 MR. LEE: We have discussion with NEI. The  
10 industry is leaning against changing the rule. From the  
11 staff point of view, we think the rule is working fine,  
12 also. So the tendency now is not to change the rule.

13 To change the topic. Back in 1997, we made a  
14 draft SRP publicly available. That is the 1997 timeframe.  
15 The NEI provided significant comments on that and those  
16 comments have raised some new issues. There are like a  
17 hundred of them. And since then, we have license renewal  
18 applications, we have granted licenses, we have reviewed and  
19 approved topical reports on license renewal, and we have  
20 given credit for the system program issue, we have the  
21 Commission decision on GALL, and basically a complete  
22 rewrite of the SRP.

23 Because all these activities, the GALL and SRP  
24 envelope all these license renewal issues, that's our  
25 feeling and NEI and the industry agree and the strategy is

1 now not to further pursue the license renewal issue by  
2 itself, but the public comment on GALL and SRP, and if they  
3 think the issues are still not satisfied, are not resolved,  
4 they can provide comment during the public comment period on  
5 GALL and SRP.

6 But for today and tomorrow, we have grouped the  
7 license renewal issues by chapters of GALL and SRP and  
8 pointed out where they might be linked. So if have any  
9 question on them, feel free to ask questions.

10 And some of these license renewal issues doesn't  
11 fit particular chapters of GALL and SRP, so I list them  
12 here. And these two are basically the credit for existing  
13 program issue that result in GALL and the complete rewrite  
14 of the SRP, and the inspection activity issue, since 1997,  
15 we have now written inspection procedures, so they'll  
16 address that.

17 And since 1997, we have reached agreement with NEI  
18 on the standard format of an application and the SRP  
19 actually is consistent with that format. So that addressed  
20 that issue.

21 MR. LEITCH: I have a question about that. There  
22 were, I guess, order of magnitude about 104 or 106 license  
23 renewal issues inventory and I guess 12 of those or so were  
24 resolved by specific letters.

25 These are the ones that are still outstanding, I

1 take it, and I guess -- and the remainder, were they  
2 generally incorporated into a later revision of the standard  
3 review plan or how were they dispositioned?

4 MR. LEE: In this complete rewrite of the standard  
5 review plan and the GALL, these issues are addressed, to  
6 some extent, and some of these are not even applicable  
7 anymore. Like inconsistencies in the SRP, we just rewrote  
8 the SRP. So the inconsistencies pointed out in the SRP  
9 doesn't apply anymore.

10 So some of these don't apply anymore, and most of  
11 these were addressed. The GALL and SRP captures the lessons  
12 we learned in the license renewal application review.

13 So we actually touched upon most of these. So  
14 that experience has been captured in GALL and SRP. The  
15 public might not be satisfied with the way we address it, so  
16 they can provide comments through the comment period.

17 For the 12 or so that you indicate, we have  
18 actually a lot of letters from NEI that says this is the  
19 best solution. They have been incorporated in the GALL and  
20 SRP, except for one, I think, and we actually sent a letter  
21 to NEI to ask them to incorporate that into 95-10 and we  
22 also incorporate it in the SRP.

23 MR. GRIMES: Sam, I have the benefit of Mr.  
24 Konig's files that we brought with us. In a letter to the  
25 NEI and USC on May 4 of 2000, we provided a disposition of

1 the license renewal inventory that explained that we were  
2 going to address a number of the issues in GALL.

3 We ended up with, out of the 106 issues, there  
4 were five that were dropped. There were 11 that were  
5 resolved. Of the remaining open items, 37 were addressed in  
6 GALL, 12 were addressed in the revision to the standard  
7 review plan.

8 NEI addressed 25 of them in their comments and that left  
9 eight active issues that we're continuing to work.

10 MR. LEITCH: Thank you.

11 DR. SHACK: Sam, are you going to talk about how  
12 the Option 2/Option 3 special treatment requirements could  
13 affect license renewal?

14 MR. LEE: That's Chris'.

15 MR. GRIMES: No, we weren't prepared to explain  
16 how the Option 2/Option 3 approaches might fit into license  
17 renewal. I will say that I've had a number of conversations  
18 with Mr. Strosnider and Mr. Wessman about different  
19 approaches that we could take and right now we're looking at  
20 whether or not there's a corresponding scope change for  
21 license renewal which would require rulemaking or whether or  
22 not we would bifurcate the treatment of aging management  
23 programs to credit -- I believe it's Appendix T is the  
24 special treatment provision for non-risk-significant.

25 DR. SHACK: That's the binning criterion.

1 MR. GRIMES: Right. But the binning criteria  
2 would also, as we understand it, at this point, have some  
3 general expectations about what treatment would consist of  
4 and then we would have to address how that treatment  
5 constitutes an aging management program under Part 54.

6 So we're working very closely with the  
7 risk-informed licensing group to make sure that we end up  
8 with a consistent approach of license renewal.

9 DR. SHACK: I guess my question is, do you think  
10 it will take a rule change or is it something that can be  
11 accommodated with the scope of the existing rule.

12 MR. GRIMES: If we credit special treatment for  
13 aging management, I think that we can accommodate it under  
14 the existing rule. But at this point, I think it's too  
15 early to tell and so I wouldn't foreclose the possibility  
16 that there might be a corresponding rule change, even if we  
17 have this bifurcated aging management treatment.

18 MR. LEE: I'm going to start talking about the  
19 SRP, this is the introduction to SRP. We have just been  
20 assigned a NUREG number. It will be called NUREG-1800, and,  
21 as indicated before, it references the GALL as a technical  
22 basis document for evaluation of aging management program  
23 and it focuses the staff in areas where programs should be  
24 augmented and incorporates the lessons learned from the  
25 initial license renewal reviews, topical report reviews,

1 and, also, license renewal issues, and, as discussed before,  
2 it uses the standard format agreed upon with NEI.

3 Another thing is this SRP also follows the  
4 NUREG-0800 style, areas of review, acceptance criteria,  
5 review procedures, findings. So the staff should be  
6 familiar with that style.

7 This is the table of contents of the SRP. It  
8 follows the rule requirements. Chapter 1 is on  
9 administrative information. Chapter 2 is on scoping and  
10 screening to identify structures and components that are  
11 subject to license renewal requirements.

12 Chapter 3 is on aging management review. That is  
13 where the GALL information would fit in. Chapter 4 is on  
14 time-limited aging analysis. Then we have some branch  
15 technical positions, and we will go through this in the  
16 presentation.

17 Are there questions? If not, I'll turn it over to  
18 Dr. Mitra to start the presentation on Chapter 2.

19 MR. MITRA: Good morning. My name is Eskay Mitra,  
20 Eskay like hotdog, Eskay Actually, my name is too long and  
21 people doesn't pronounce right. So I reduced this to Eskay  
22 I lead the license renewal technical staff, who have  
23 accumulated the scoping and screening methodology and the  
24 result of Chapter 2 of SRP.

25 With me, my colleague, Juan Peralta and Chris

1 Gratton, and they have significant contribution of writing  
2 this chapter.

3 As Sam already spoke, that we have quite a number  
4 of comments from NEI and we only picked some significant  
5 ones to discuss here, and we'll try to explain the comments  
6 as much as we can.

7 The first comments are that reviewers should focus  
8 on verifying applicants' as-implemented and acceptable  
9 scoping methodology rather than verifying no omission of  
10 structures and components subject to aging management  
11 review.

12 On this comment, actually, staff concurred and  
13 added a sentence as recommended by NEI, saying to verify  
14 that the applicant has properly implemented its methodology.  
15 The staff reviews the implementation, resolves separately  
16 following the guidance in the Section 2.2 through 2.5 of the  
17 standard review plan.

18 Actually, during the review of both Section 2.2  
19 and 2.5, to come to a reasonable assurance of finding, the  
20 staff should find no omission of structure and component  
21 identified by the applicant as subject to aging management  
22 review.

23 DR. LEITCH: Eskay, just one question, for  
24 clarification. Are these NEI comments on the draft of  
25 August 2000 or are they comments on an earlier draft?

1 MR. MITRA: These are the draft -- these are  
2 accumulation of earlier draft and some of them on August  
3 2000, also.

4 MR. LEE: This is April 2000.

5 DR. LEITCH: So these comments have already been  
6 incorporated in the draft that we have in front of us of  
7 August 2000.

8 MR. MITRA: Yes, some of them, and whichever is  
9 not, I will tell you.

10 DR. LEITCH: Very good. Thank you.

11 MR. MITRA: The first one, as I said, was  
12 incorporated.

13 DR. KRESS: The objective of an NRC review is to  
14 verify no omission of structures and components. So why are  
15 they objecting to you doing that? Is it because it would  
16 take too much of their time and your time and that's not  
17 really practical to do that? I don't understand the  
18 objection.

19 MR. PERALTA: Good morning. My name is Juan  
20 Peralta, NRR staff. The issue was not that we were not to  
21 look for no omissions. It's just that the language in the  
22 introduction appeared to indicate that we were looking for  
23 to demonstrate the absence or to prove the negative, which  
24 is a matter of semantics in the text. It wasn't anything  
25 technical, per se.

1 DR. KRESS: I see.

2 MR. PERALTA: It was just a matter of  
3 clarification.

4 DR. KRESS: Okay.

5 CHAIRMAN BONACA: I still had a comment on this  
6 issue. A general comment I have, even reviewing the current  
7 SRP, is that the scoping and screening methodology is still  
8 a patchwork of efforts to identify what is and what is not  
9 in the current licensing basis.

10 I don't see that there is a recipe that is so  
11 clear-cut, if you follow it, you identify everything. I do  
12 believe that the experience that you had with Oconee, for  
13 example, it will be still repeated for almost any older  
14 plants out there, whereby they will come in with a certain  
15 core licensing basis, you will begin to ask questions of why  
16 does the high energy line break, doesn't belong into the  
17 current licensing basis. They will take a certain position,  
18 you will take another one, and then there will be some  
19 compromise there.

20 Because of that, I just don't understand the  
21 thrust of this comment, and I don't see why -- because if  
22 there was, again, a clear-cut methodology that you can  
23 follow, then I would agree with this comment. Otherwise, I  
24 just don't understand it.

25 MR. PERALTA: I personally don't think that we're

1 ever going to see -- well, hopefully -- another review like  
2 Oconee.

3 One of the reasons why the SRP doesn't provide a  
4 cookbook approach is because we need to remain flexible to  
5 different licensing bases. That's one of the reasons why we  
6 do an on-site review and we go through a very detailed  
7 review of all licensing basis documents on-site.

8 So I don't think you'd be able to come up with a  
9 very fixed algorithm that you can go through and fit every  
10 licensing basis into that.

11 CHAIRMAN BONACA: Okay. I understand that.

12 MR. PERALTA: There has to be some room to  
13 maneuver. There may be cases where there are some  
14 discussions or arguments back and forth, but in every  
15 instance, we'll have to find what is the conclusive  
16 licensing basis for each facility.

17 CHAIRMAN BONACA: Let me ask you a question. Are  
18 you going to talk specifically about the scoping methodology  
19 that you have in the SRP at this point during the  
20 presentation?

21 MR. PERALTA: Yes.

22 CHAIRMAN BONACA: All right. We'll talk about  
23 that later.

24 MR. MITRA: The next comment is individual plant  
25 examination and individual plant examination of external

1 event, IPE and IPEEE, results should not be used in license  
2 renewal scoping and on that issue, we agree that since  
3 license renewal rule is deterministic, not probabilistic,  
4 the industry commented that PRA techniques are very limited  
5 use for license renewal scoping and thus wanted to eliminate  
6 review of IPE and IPEEE in the SRP.

7 DR. KRESS: It's true that the rule is  
8 deterministic as written.

9 MR. MITRA: Yes, it is, and we agree with that.

10 DR. KRESS: And if there is information in these  
11 that are useful to you, why would you not use it?

12 MR. MITRA: Well, that's what I'm trying to say.  
13 But, also, feels that use of IPE and IPEEE results provide  
14 useful insights into the CLB.

15 In addition, the Commission, in the rule, stated  
16 that in license renewal, probabilistic methods may be most  
17 useful on a plant-specific basis in helping to assess the  
18 relative importance of structures and components that are  
19 subject to aging management review by helping to draw  
20 attention to specific vulnerabilities; that is, result of  
21 IPE and IPEEE.

22 So even though we agree that license renewal rule  
23 is probabilistic, it still have the reference of IPE and  
24 IPEEE.

25 DR. KRESS: I should have waited till you

1 finished.

2 MR. MITRA: The next bullet is, next comments,  
3 rather, explicit identification of design basis events may  
4 not be necessary for all plants and our view is while not  
5 always necessary for all plants, for scoping and screening  
6 process used by the applicant for identifying SSCs within  
7 the scope of the rule depends on knowledge of plant-specific  
8 design basis event as captured in the plant CLB.

9 Therefore, the staff's position on this issue is  
10 even when applicant elects to rely on a pre-existing list of  
11 SSCs to meet the criteria in 10 CFR 54.A.1, the applicant  
12 must still demonstrate the applicability of such list for  
13 purpose of license renewal scoping.

14 But next comments we will discuss is they're  
15 talking about examples used in SRP should acknowledge  
16 preeminence of plant-specific CLBs. The staff included  
17 clarification that highlight CLB bounds and examples, on  
18 examples given.

19 Any questions on the comments? As I said, we  
20 included, saving time, just the more significant comments.

21 MR. PERALTA: Dr. Bonaca, this is Juan Peralta  
22 again. I think this may be a good point, if you want to ask  
23 questions on it.

24 CHAIRMAN BONACA: Okay. My question was if you  
25 were going back on this scoping and screening, and you are

1 telling me this is the time.

2 MR. PERALTA: This is it.

3 CHAIRMAN BONACA: All right. So let's talk about  
4 that. I mean, you've said that the Oconee experience is  
5 pretty unique. Well, we have reviewed two license renewals,  
6 so we don't know how unique it's going to be. There might  
7 be some other difficult ones that come.

8 I still have a question regarding the guidance,  
9 because the guidance is very general. It's similar to the  
10 one we had in the previous SRP draft, with some  
11 enhancements, I think. But during the Oconee review, a  
12 disagreement came about the number of accidents that were  
13 not included as part of the CLB of Oconee, and they were, in  
14 fact, I think, had to do with requirements that were imposed  
15 by the NRC in later years, I think in the late '70s and  
16 early '80s, and I was always struck on how the  
17 misunderstanding could be there and essentially the -- I  
18 don't think that Duke changed their perspective on what the  
19 CLB of Oconee was.

20 They simply followed the direction of the NRC to  
21 go back and review those additional accidents. And to the  
22 degree to which there is that confusion and that can be  
23 repeated, again, that bullet number one, it's quite  
24 significant, it seems to me.

25 MR. PERALTA: It wasn't so much an issue of going

1 back and arguing on DBEs. It was a fundamental argument the  
2 definition of safety-related structures, systems and  
3 components with respect to Ocone and with respect to the  
4 way to define it in the license renewal rule, and that's  
5 where the argument came about.

6 CHAIRMAN BONACA: So you feel now comfortable that  
7 with the guidance as it exists today, that kind of confusion  
8 won't be there.

9 MR. PERALTA: I think there's always the potential  
10 to run into problems with all older vintage plants, but I  
11 think we need to remain flexible to a dialogue with the  
12 licensee and to understand their basis of their position.

13 I don't think we can dictate, for example, a set  
14 of DBEs that were applied to a plant, it would be  
15 impractical to do that.

16 CHAIRMAN BONACA: Could you develop a list for a  
17 plant that meets all current requirements, plant design to  
18 current SRP, and could you -- just as a question, could you  
19 develop such a list for that plant?

20 MR. PERALTA: For a given plant, probably. For a  
21 single plant.

22 CHAIRMAN BONACA: I'm talking about for a very  
23 recent design and I'm only probing to see if you could  
24 enhance your guidance by putting a couple of examples in it  
25 of what you would require could be for a very -- for a

1 current plant, and then maybe list an example of an older  
2 plant, without naming the plant, for how to go from one to  
3 the other.

4 MR. PERALTA: I just don't see how that would be  
5 helpful, since we still need to go through the CLB and look  
6 at all the exemptions, all the orders, and plant-specific  
7 basis, before we understand how the scoping methodology was  
8 done.

9 And some plants have developed very extensive lists, so  
10 called Q-lists, and if we understand the process by which  
11 they developed those lists and if we're satisfied that  
12 they've looked into the FSAR and the complete CLB and  
13 they've captured all the plant-specific DBEs, I mean, I  
14 don't see how having a list of typical DBEs would be  
15 helpful.

16 MR. GRIMES: Dr. Bonaca, I'd like to emphasize  
17 that, as Juan has described, the controversy that we had  
18 over Ocone largely involved a language difference. What  
19 they called design basis events, in our view, was very  
20 narrow and they considered other things that we would have  
21 considered design basis events as plant capabilities, and we  
22 ended up spending a considerable amount of time just  
23 comparing language differences.

24 And in the end, we made a convincing case by  
25 explaining plant capabilities in terms of what the

1 boundaries of the current licensing basis are and that's the  
2 way that the standard review plan has captured the Oconee  
3 experience.

4 It's more in terms of defining the boundaries of  
5 the CLB and then putting the burden and responsibility on  
6 the licensee to decide what constitutes a plant capability  
7 without having to argue about what is the definition of  
8 design basis event.

9 We felt that that guidance was more constructive.  
10 Even when we laid a list before Duke, they spent most of  
11 their time explaining that that's not the way they talk.

12 And so the value of a list, in our view, is more  
13 detrimental because it tends to drive the older plants  
14 particularly into defending their language use more than  
15 looking closely at what their plant capabilities are.

16 CHAIRMAN BONACA: The list was purely -- the thing  
17 that I wanted to -- one of the issues was, for example, high  
18 energy line break. High energy line break has meant -- the  
19 implementation of it has meant actual design changes of  
20 power plants, modifications to withstand those accidents  
21 that could occur in different locations.

22 That was a major thing that happened. I don't see  
23 how that could be only a capability for the plant rather  
24 than a design basis.

25 All I'm trying to say here is that reading the SRP

1 guidance and reading the NEI document, I don't see that  
2 there is any additional help being provided to the next  
3 plant and to the reviewer of a plant in understanding -- in  
4 facilitating the review and the approval in the SER process.

5 I'm not saying it cannot be done. I'm only saying  
6 that I don't think the documents have been modified in a way  
7 to help the process.

8 DR. LEITCH: Could you contrast between the  
9 scoping, as described here, and scoping in the maintenance  
10 rule? Evidently the two are not exact. There are some  
11 things in the maintenance rule that are not here and some  
12 things here that are not in the maintenance rule.

13 Could you say a word about that, help me  
14 understand that distinction?

15 MR. PERALTA: The maintenance rule overlaps, to a  
16 large extent, except for, for example, regulated events are  
17 not included in the scope of the maintenance rule and they  
18 are in the license renewal rule.

19 Also, seismic considerations, the maintenance rule  
20 does not consider those. For the most part, the definition  
21 is very much the same.

22 DR. LEITCH: What was the first one?

23 MR. PERALTA: Regulated events, for example, ATWS,  
24 station blackout, are a bit broader than the maintenance  
25 rule. And some licensees have elected to use that as a

1 starting point when they're preparing the scoping and the  
2 screening process.

3 DR. LEITCH: Is there anything in the maintenance  
4 rule that would not be included here?

5 MR. PERALTA: Probably emergency operating  
6 procedures, EOPs. They are not explicitly addressed in  
7 license renewal.

8 DR. LEITCH: So the maintenance rule, as you  
9 indicate, could be a good starting point.

10 MR. PERALTA: And it is.

11 DR. LEITCH: But there is another set of issues  
12 beyond the maintenance rule.

13 MR. PERALTA: Right.

14 DR. LEITCH: Okay.

15 CHAIRMAN BONACA: One more question is to do with  
16 in the SRP, there is a clear reference to the documents that  
17 need to be looked at in scoping, there is a table. I can't  
18 remember the number of the table.

19 But in the table, there is an identification of  
20 the EOPs. The EOPs may commit certain systems that then  
21 become part of, I guess, the scope.

22 The NEI document has a table just like that, but  
23 does not include any reference to the EOPs. Is there any  
24 difference there with the industry regarding this issue?

25 MR. PERALTA: I would say that they would try to

1 remain as close to the rule as we could. This is a guidance  
2 to the staff. So we tried to have as much references as we  
3 can, as much information as we can. That does not mean it's  
4 going to be used as the acceptance criteria. That's the  
5 same -- in the same vein that we use the PRA summary report,  
6 for example. It does not certainly mean there's going to be  
7 -- that equipment or SSCs identified through the PRA summary  
8 report will have to be included in the scoping of the  
9 license renewal rule.

10 So there was considered to be used as a good  
11 source of information, additional information. But looking  
12 back, it may not be strictly necessary.

13 CHAIRMAN BONACA: How do you make that judgment?  
14 How does the reviewer make a judgment that if a piece of  
15 equipment is committed by the EOP to perform an important  
16 function to go to cool shutdown, for example, cold shutdown,  
17 it would be there?

18 MR. PERALTA: EOPs go beyond the design basis of  
19 the plant. So, again, we have to go back and try to  
20 understand and provide the bounds or understand the bounds  
21 to the CLB and make those calls there.

22 CHAIRMAN BONACA: What about severe accident  
23 management, there were commitments of equipment for that,  
24 too?

25 MR. PERALTA: That's beyond the scope of the rule.

1 CHAIRMAN BONACA: So you don't consider it as part  
2 of that.

3 MR. PERALTA: Right.

4 MR. GRIMES: Actually, Dr. Bonaca, I want to point  
5 out, Juan raised an important point. That EOPs and severe  
6 accident capabilities and IPE/IPEEE insights are all useful  
7 information to the reviewer to identify areas that are  
8 important in the plant. But then we go back to the -- the  
9 test is whether or not the licensing basis, as it's  
10 described in the guidance, captures that equipment and  
11 relies upon it to perform one of the functions described in  
12 54.4.

13 And so these things are useful tools for the  
14 staff, particularly to focus on areas that are particularly  
15 important in plant capabilities. But ultimately, the scope  
16 of aging management reviews is tested against the definition  
17 of the licensing basis.

18 CHAIRMAN BONACA: But isn't it true that if you do  
19 a change to an EOP, you have to perform a 50.59 to determine  
20 whatever 50.59 determines?

21 MR. PERALTA: That's true, but that's related to  
22 the licensing basis.

23 MR. GRIMES: That, similarly, is a test of whether  
24 or not the change involves a change in the licensing basis  
25 that requires prior NRC review and approval.

1           CHAIRMAN BONACA: That's right. But I heard here  
2 a clear exclusion based on the fact it's not part of the  
3 licensing basis.

4           MR. PERALTA: Well, we didn't say that. We said  
5 that we look into that and to understand the bounds of the  
6 CLB.

7           CHAIRMAN BONACA: Let me a question now. Will the  
8 plants commit to have severe accident management still  
9 during the additional 20 years of operation?

10          MR. PERALTA: I'm not the one to answer that.

11          CHAIRMAN BONACA: So for the first 40 years, they  
12 have committed to severe accident management and commitments  
13 beyond that, and then for the next 20 years, we don't know.

14          MR. GRIMES: When plants commit to severe accident  
15 management, they're committing to a process, not necessarily  
16 committing to change the scope of systems, structures and  
17 components that fit on the cue list. The commitment to  
18 manage severe accidents is still going to exist. It is part  
19 of the CLB that carries forward, but the commitment to  
20 severe accident management did not, in and of itself, change  
21 the definition of what is safety-related in the current  
22 licensing basis.

23          CHAIRMAN BONACA: Although I do believe that you  
24 would want to perform a review to make sure that what you  
25 committed to do in case you get into severe accidents, you

1 can still do in the next 20 years of operation. I don't  
2 think that -- I think that there should be an understanding  
3 with the industry that there's potential for those actions  
4 that they identified in the severe accident management  
5 commitments should be still supported during the 20  
6 additional years of operation.

7 It seems to be reasonable.

8 MR. GRIMES: I would tend to agree, if we can find  
9 a way to articulate that in some expanded guidance and the  
10 expectation for how the CLB carries forward, we might be  
11 able to do that.

12 But I think that that expectation has been clear  
13 in the past.

14 CHAIRMAN BONACA: Okay. Thank you.

15 DR. SEALE: Well, isn't it part of the CLB?

16 MR. GRIMES: Yes, sir.

17 DR. SEALE: Then what else needs to be said?

18 CHAIRMAN BONACA: That's why I'm troubled by the  
19 fact that the NEI document doesn't mention at all the EOPs.  
20 The SRP only mentions that as a reference document on a  
21 table, and then we hear some vagueness regarding those, and  
22 insofar as the severe accident management, there has been no  
23 understanding that the commitment would be maintained  
24 entirely, and that's what troubles me, Bob.

25 MR. GRIMES: I think that there is a wide range of

1 process commitments that are embodied in different ways in  
2 all of the operating licenses and it would be -- I confess,  
3 I think it would be confusing for us to try and surround  
4 them with a description of our expectations about how the  
5 variety in those licensing basis would be expected to carry  
6 forward.

7 Statements of consideration in Part 54, I think,  
8 are very crisp and clear in terms of the role of the CLB and  
9 how it carries forward with a renewed license.

10 CHAIRMAN BONACA: Thank you.

11 DR. SHACK: Just for the SSCs that are in GALL, is  
12 that expected to be an enveloping group or do you expect to  
13 identify new components or will the scoping essentially  
14 reduce that scope?

15 MR. PERALTA: I guess I don't understand.

16 DR. SHACK: Is everything that you expect to find  
17 in GALL, in most cases known?

18 MR. GRATTON: No.

19 DR. SHACK: So you really do expect to have  
20 additions to systems, structures and components beyond those  
21 identified in GALL.

22 MR. GRATTON: This is Chris Gratton, from Plant  
23 Systems. The way I understand, the product of the aging  
24 management review, the components that come out of that can  
25 then be compared with GALL and if there are components in

1 GALL that match up with those components, you can use that  
2 aging management program.

3 It's a predetermined review. But there are -- we  
4 expect there to be many components, or maybe not many, but  
5 other components that are on that list of components subject  
6 to aging management review that are not in GALL and they  
7 would have to do a plant-specific evaluation.

8 So they're not going to be going in synch or  
9 reduce the number. It's just for convenience, they've  
10 already been pre-reviewed.

11 DR. SEALE: It's generic, but not complete.

12 MR. GRATTON: Not complete sounds so bad. No. We  
13 always do a complete review.

14 DR. SEALE: The list is generic.

15 MR. GRATTON: The list is generic and it's the  
16 ones that we expect to find, but every plant has got  
17 components that may not be on that list.

18 MR. GRIMES: We would like to say generic and  
19 illustrative.

20 MR. MITRA: Anymore questions?

21 [No response.]

22 MR. MITRA: As Sam said, all SRPs and GALL have  
23 license renewal issues that came in that jurisdiction and we  
24 have, in the scoping methodology, we address a few of them  
25 and one of them we already talked about, the 98-007, the

1 risk-informed license renewal. We already talked during the  
2 previous presentation.

3 The 98-012, a letter of March 10, 2000, internal  
4 management is, like I say, a generic question and it's being  
5 resolved. The -024, methodology review guidance, and we  
6 issued the SRP and that's the guidance we are talking about.

7 072 is the commodity groups, also resolved by the  
8 letter written on March 3 -- March 10, 2000. 073, rule of  
9 evolution boundaries has been resolved. 082, hypothetical  
10 failure, scoping guidance, is resolved by a letter written  
11 on August 5, 1999. It's incorporated in Section 3C-B of SSC  
12 and it's also page 216 of SRP.

13 Number 090, verification needed on the term design  
14 basis condition, as used in the SRP section, resolved, term  
15 no longer used in SRP. And 096, applicability of the  
16 piece-part is resolved, term deleted from the SRP.

17 DR. SHACK: What was the issue on the hypothetical  
18 failures? It seemed to me the statement of considerations  
19 was clear and the guidance is consistent with that. What  
20 was the issue there?

21 MR. GRIMES: I'll take it. The concern was how  
22 creative could we get in hypothesizing failures that might  
23 go well beyond what was considered in the licensing basis.  
24 So the explanation about the boundaries of scoping in terms  
25 of identifying what constitute design basis capabilities and

1 design basis events addressed that concern.

2 We don't hypothesize new combinations of things,  
3 and I think that was fundamental to this issue.

4 MR. MITRA: Anymore questions?

5 CHAIRMAN BONACA: So for all these issues, there  
6 is a pretty -- there is a consensus from NEI that you have  
7 pretty much addressed those.

8 MR. MITRA: I think so, hope so.

9 CHAIRMAN BONACA: So you have reasonable closure.

10 DR. SHACK: You still have 700 comments.

11 MR. MITRA: Right.

12 DR. SEALE: Notwithstanding.

13 MR. MITRA: Not withstanding, yes.

14 CHAIRMAN BONACA: But your feeling is that even  
15 though -- even though --

16 MR. MITRA: We have a good feeling about it.

17 CHAIRMAN BONACA: Even knowing where the 700 comments are,  
18 you feel that these issues have been sufficiently understood  
19 and addressed.

20 MR. MITRA: These issues are not -- it's there  
21 since '97. So we would have heard if they have any problem  
22 with that.

23 MR. GRIMES: I'd like to add that I don't -- I  
24 would not be surprised if we didn't get additional comments  
25 from the industry on some of these areas in terms of whether

1 or not there's still a level of detail that they might like  
2 to see in an improved guidance.

3 But I wouldn't consider that to be a lack of  
4 success. I think that as fast as we can get the guidance  
5 improved, the industry has been able to identify areas where  
6 further improvements could be made and it's a matter of just  
7 drawing a line on, I think, what's typically referred to as  
8 low hanging fruit.

9 We're going to go for as much improvement as we  
10 reasonably can without putting the credibility of the  
11 guidance at jeopardy within a timeframe that we have to  
12 work.

13 DR. SHACK: But there was general agreement there  
14 was no such thing as low hanging fruit.

15 MR. GRIMES: Depends on the area.

16 CHAIRMAN BONACA: This is all about scoping and  
17 screening.

18 MR. MITRA: On methodology, early results.

19 CHAIRMAN BONACA: Good.

20 MR. MITRA: According to the agenda, we have a  
21 break, but if we are early, we can go ahead.

22 CHAIRMAN BONACA: Let's proceed. I think we'll  
23 take a break as close to ten as we can. I don't want to  
24 belabor the issue of the EOPs. However, I want to say that  
25 for older plants, I'm very familiar with some of the FSARs,

1 even have data, there is very little information, there are  
2 transients that are summarized, there are surrogate  
3 transients, very few minutes or seconds, description, very  
4 little understanding about what equipment is being used for  
5 what.

6 The EOPs become a very important document to  
7 understand what further commitments the plants made to be  
8 able to deal with accidents, much more than for newer  
9 plants, for which you have substantial information in the  
10 FSAR.

11 All those commitments are, you know, since they  
12 are referenced in the FSAR, they are commitments that I view  
13 as part of the current licensing basis.

14 If I am incorrect, let me know, because every time  
15 you had to make a change to those, you had to perform a  
16 50.59.

17 And I heard two different stories here. At the  
18 beginning, I heard, well, we're only looking at the current  
19 licensing basis and the EOPs, we're only looking at them as  
20 we look at the IPEs. Then I heard a response to Dr. Seale  
21 that, no, it's part of the current licensing basis.

22 I would like to have a clear understanding of that  
23 issue and maybe this is the time, since we are ahead of  
24 schedule.

25 MR. PERALTA: That's precisely why we have the

1 EOPs and PRA and so forth, to try to understand the boundary  
2 of the CLB for each plant, since, like you said, it's not  
3 very well documented.

4 When we go on-site, we venture into those areas.  
5 We need to remain a bit cautious because we need to  
6 understand also the bounds that are dictated by the CLB.

7 So we didn't want to come across as indicating or  
8 implying that every -- that the whole EOP or the severe  
9 accident management now becomes part of the CLB.

10 CHAIRMAN BONACA: You're making me uncomfortable,  
11 because you're throwing in the EOPs with the IPES and with  
12 severe accident management. They are different things.  
13 EOPs are referenced in the FSAR, are, in my judgment, part  
14 of the current licensing basis.

15 Severe accident management are commitments that  
16 the industry has made outside of the current licensing basis  
17 and, also, I agree that the IPEEEs are the same thing.

18 But it's not every equipment that is relied upon  
19 for severe accident management falls within the scope of the  
20 rule.

21 CHAIRMAN BONACA: I understand that. I'm talking  
22 about EOPs.

23 MR. GRIMES: Dr. Bonaca, let me try again, because  
24 I understand your concern and the difficulty that we face is  
25 essentially the same difficulty that we face in the

1 controversy over the definition of design basis that was  
2 recently resolved in NEI guidance on the treatment of design  
3 basis.

4           The fact that current licensing basis embodies a  
5 commitment to manage severe accidents or to have EOPs or to  
6 maintain the plant in a quality way, that will carry  
7 forward, because that is part of the licensing basis. But a  
8 commitment to have and maintain EOPs does not necessarily  
9 change that some older plants do not describe certain system  
10 or component capabilities as design basis events or abnormal  
11 occurrences.

12           And so having the EOPs provides a capability for  
13 the plant to cope with that, but it doesn't necessarily  
14 change the boundary of what constitutes safety-related  
15 systems, structures and components, and that's the  
16 distinction that we're trying to make here.

17           The CLB, for our purpose, is what is a  
18 safety-related piece of equipment or a safety-related  
19 structure for which there should be an aging management  
20 review. The commitments to have severe accident management  
21 in EOPs give us insights into what plant capabilities are  
22 important, but ultimately the test of whether or not the  
23 equipment that's relied on, and I would say that the most  
24 difficult for us is fire protection, because in fire  
25 protection space, the description of the fire protection

1 capabilities vary widely, even across the more modern  
2 plants.

3 But ultimately, that is the test that we look to  
4 in terms of whether or not a particular equipment, not  
5 processes, but equipment, systems, structures and components  
6 is relied upon to perform the functions described in the  
7 scope of the rule.

8 CHAIRMAN BONACA: You're still making me  
9 uncomfortable. You're throwing together the severe accident  
10 management guidelines and the EOPs. The EOPs are specific  
11 to the equipment. In many older plants, there is no  
12 description of how you depressurize and cool down to cold  
13 shutdown, but the EOPs contain that and they define very  
14 clearly what equipment you need to rely on, the auxiliary  
15 feedwater system.

16 I mean, older plants, at times, have had that  
17 listed as not safety-related and then later on, it clearly  
18 was considered. But that kind of clarity has to be there,  
19 because the EOPs are committing to do fundamental steps like  
20 going to cold shutdown.

21 MR. GRIMES: That's an excellent example, I think,  
22 of the point, because I know that there are a number of  
23 older plants for which they have emergency operating  
24 procedures for feed-and-bleed capability, but that  
25 capability is not described in the FSAR and is not part of

1 the licensing basis.

2 So for plants who have a commitment to maintain  
3 EOPs, that carries forward into the renewed term, but if the  
4 plant design basis does not specifically call out a reliance  
5 on a feed-and-bleed capability, we're not going to -- we  
6 might not see that equipment captured within the licensing  
7 basis.

8 And if we think it's important enough, then we  
9 would pursue changing the licensing basis under Part 50.

10 CHAIRMAN BONACA: Okay. Thank you.

11 MR. MITRA: Now, we will present scoping and  
12 screening results, and, again, there are many NEI comments  
13 and we only address the significant ones. The first one is  
14 we have a question of scope of review and design basis  
15 events.

16 Their comment reflects a need for clarifying the  
17 staff's review approach. The staff uses the following  
18 approach during the review. We define the -- the scope is  
19 defined in 10 CFR 54.4 and design basis events are found in  
20 current licensing basis as defined in the five documents.

21 The applicant can choose to include SSCs not  
22 meeting 10 CFR 54.4. Staff samples SSCs that are identified  
23 to determine whether they perform intended function and meet  
24 54.4.

25 Reasonable assurance achieved by finding no errors

1 in the sampling or no omission of structure and components  
2 subject to AMR and this constitutes an independent review of  
3 results, not a verification of application method.

4 These are the five approaches the staff takes when  
5 they review.

6 The second comment we addressed is, again, no  
7 omission of structures and components subject to an aging  
8 management review. The staff's position on this issue is in  
9 order to come to a reasonable assurance finding, the staff  
10 should find no omission of components and structures  
11 identified by the applicant as subject to the aging  
12 management review.

13 Any inconsistencies are addressed as they are found, either  
14 justified or included within the scope.

15 And the next one, the comment is the industry  
16 things to verify applicant's scoping and screening results,  
17 the staff should verify applicant's scoping and screening  
18 results.

19 And NEI recommended that staff should review the  
20 applicant's scoping methodology to review scoping and  
21 screening results. However, the staff perform an  
22 independent review, and it's called that, of applicant's  
23 scoping and screening results.

24 The purpose of the independent review is to verify  
25 the adequacy of applicant's scoping methodology.

1           These three comments we have addressed among the  
2 others and these are the more significant.

3           Any questions?

4           DR. LEITCH: Is what's proposed then that the  
5 staff would do -- are you describing an audit rather than a  
6 complete review? Is that the sense of what we're hearing,  
7 that rather than a complete review, you would do a sampling  
8 or an audit?

9           MR. GRATTON: No. This is the methodology that we  
10 implemented for the first two applications. The licensee  
11 sends in their complete application and as many as 50 or 60  
12 systems, including the tables of all the components that are  
13 in scope, and along with that, they send in diagrams that  
14 show the bounds of the systems that they include -- that  
15 they consider are within scope.

16           The methodology that Juan was talking about  
17 describes how they put that information together and he  
18 independent verifies that his is complete.

19           What our section does is we take the results and  
20 along with those diagrams and the five basic documents,  
21 which are the FSAR, any license conditions, the applicable  
22 regulations, orders and exemptions, and we try to bound the  
23 CLB and look at the diagrams and the lists to determine  
24 whether or not the components that are on that list  
25 constitutes a complete picture of all the components and

1 structures that are within scope.

2 The application is broken down and distributed  
3 among reviewers and the reviewers go system by system,  
4 component by component and verify the list.

5 So right now, it's a complete 100 percent review  
6 of all the information that comes in in the application and  
7 the steps that you're looking at, when we look at those, at  
8 the drawings, it says that the applicant can choose more  
9 systems, structures and components than are require by the  
10 licensee, sometimes by convenience, they will mark off  
11 portions of the structures and components that are not  
12 safety-related.

13 So we sort of have to discriminate and the best  
14 way that we've found to discriminate is to look at the  
15 portions that are not highlighted, the ones that are not  
16 included within the scope, and try to determine whether or  
17 not they have a safety function that's described in one of  
18 those five documents.

19 If it is, those are the areas that we focus on,  
20 because the other ones are included. They're going to be  
21 subject to an aging management review.

22 So to answer your question, NEI said, hey, you  
23 know, you're doing a negative review, you're looking at  
24 things that are not in scope, why are you doing that. We're  
25 verifying that what they've excluded, the omissions are

1 correct.

2 So when we have a finding of no omissions, that  
3 means we have reasonable assurance that everything has been  
4 captured. It might be more than everything, but everything  
5 has been captured in that list, and to verify their  
6 methodology would do nothing more than say, yes, your  
7 methodology has been fixed in these tables, but that doesn't  
8 say that what's been left out we've even looked at.

9 So we didn't want to go through that sort of test  
10 as we were doing our review. We wanted to do something that  
11 was independent and we felt that this was the best way,  
12 because we looked at what was not included.

13 DR. LEITCH: Thank you. I understand.

14 CHAIRMAN BONACA: I have a question. I've looked  
15 at the agenda for the next two days and there is a  
16 presentation tomorrow by NEI on their document, but to the  
17 degree -- but there is no area where the staff is commenting  
18 on the NEI document, which really interfaces with this.

19 To the degree to which you have information, when  
20 you come to the specific section, if you have insights or  
21 comments you would like to make on the NEI document, I would  
22 appreciate that, because we hear a lot of interaction here  
23 on what the expectations of NEI were on the SRP, but there  
24 is a burden on the NEI document, too, because it supports  
25 the reg guide, and I would like to hear from you if there is

1 --

2 MR. GRATTON: It's not done in a vacuum. Over the  
3 past couple of months, we've interacted with NEI. Have we  
4 actually reviewed the draft documents? I've seen a couple  
5 of them. I'm not sure whether or not I've seen the most  
6 recent version of their 95-10.

7 MR. GRIMES: Yes. As a matter of fact, we've  
8 reviewed Revision 2 of 95-10 and we believe that there is  
9 reasonable consistency, as Dr. Lee pointed out. We have an  
10 expectation that having gone through this process, to get  
11 this far with the August standard review plan, that NEI is  
12 going to go through another revision of 95-10 to make  
13 conforming changes.

14 So to the extent that the staff is describing a  
15 resolution that could impact the 95-10, Mr. Walters will  
16 tell you tomorrow that they expect to make additional  
17 conforming changes and the nature of the comments so far  
18 you've heard has been largely in the language on the  
19 instruction to the staff on how they should do their job.

20 But the resolution of these particular technical  
21 issues is also being reflected, either has been or will be.  
22 So it would be appropriate for you to challenge Mr. Walters  
23 tomorrow, and let's not tell him, so that it comes as a  
24 surprise.

25 CHAIRMAN BONACA: The reason why I'm raising it

1 now is there is only one hour for that tomorrow and probably  
2 is enough, but I think the applicants are going to look at  
3 the NEI document as a means of developing their  
4 applications. So all the comments we are having here is on  
5 the ability of the reviewer to put together an SER, a  
6 quality SER.

7 But I think that -- so to the degree to which you  
8 have insights, where there are open issues with the NEI  
9 report, please raise them today.

10 MR. GRATTON: After NEI submitted these comments,  
11 there was a meeting that they had attended or that we  
12 attended with them here and the same methodology that I've  
13 just described to you was described to them and it was after  
14 they had sent in these questions about, hey, how come you're  
15 looking at the parts that are not in scope, you're supposed  
16 to be reviewing the scope that's within scope, and I think  
17 that clarified a lot the fact that we -- there was an  
18 interaction between the staff and NEI at that point about  
19 how it's done and it may clarify their methodology for  
20 putting together application, because we do -- we've  
21 communicated with the licensees early on in their  
22 application point how vital the diagrams and the  
23 descriptions are to us performing our review and the method  
24 that I've just described.

25 And I'm hoping to see that reflected in their

1 95-10.

2 CHAIRMAN BONACA: Thank you.

3 DR. SEALE: I'll be interested to hear more about  
4 this sandbagging management style.

5 MR. MITRA: If you don't have anymore questions on  
6 comments, then we'll go to the license renewal issues.  
7 Number 8 is a component list and the staff identifies the  
8 component list by plant-specific diagram, as Chris was  
9 saying, P&ID diagram, that is.

10 The commodity groups are allowed and guidance on  
11 how to evaluate commodity groups is contained in a revised  
12 SRP and it's in Section 2.1 and through 2.3 through 2.5.

13 And next, 11 through 20, it's passive-active  
14 determinations, fuses, active-passive transformers,  
15 indicating lights, heat tracing, electrical heaters.

16 The determination of passive-active was made on  
17 NEI document 95-10 and later on included in SRP table 2.1.6.

18 The electrical components identified above are  
19 determined to be active components, and thus not subject to  
20 an aging management review.

21 Number 21, which is recombiners, it will be  
22 evaluated in plant-specific basis as a complex assembly.

23 One or two model breakers in storage, as Dr. Lee  
24 previously said, that we missed this, also NEI missed it,  
25 but this is outside scope of license renewal. We didn't

1 include in SRP. It is not included in 95-10, but it will be  
2 included in the next revision of SRP.

3 CHAIRMAN BONACA: That's equipment in storage?

4 MR. MITRA: Yes.

5 CHAIRMAN BONACA: Still you're looking at passive  
6 components.

7 The passive portions of those components.

8 MR. MITRA: And the last one, 105, heat transfer  
9 function, this is result and included in table 2.1.3.

10 DR. UHRIG: Go back to motors and breakers. Those  
11 are nominally active components, are they not?

12 MR. SHEMANSKI: This is Paul Shemanski. This  
13 issue was identified at Oconee, I believe, during part of  
14 the scoping and screening process and the question was how  
15 do we treat these.

16 It turns out that motors and breakers are  
17 identified in the license renewal rule as being active. So  
18 based on that, Oconee determined that they were out of  
19 scope.

20 But we had a concern about whether or not these  
21 items in storage are going to receive any type of treatment  
22 which would ensure their functionality when they are put in  
23 service.

24 So we had discussions with Oconee and we  
25 determined that even though these are active components, it

1 just seems logical that they need to give us some assurance  
2 that these components will work, in fact, when they are  
3 taken out of storage and installed in their proper circuits.

4 We did give credit to the fact that these  
5 components are -- even though they're in storage, Oconee  
6 told us that they are periodically given -- they are looked  
7 at primarily from a maintenance and surveillance standpoint  
8 and some testing.

9 So it's not like they're put in storage and then  
10 nothing is done. They do receive some treatment. So that  
11 gives assurance that they will function when they are called  
12 on.

13 DR. UHRIG: What about components that are in some  
14 vendor's storage? Is that any different?

15 MR. GRATTON: The components that he's talking  
16 about were for specific set of events. These are the SFF  
17 called-out components that are stored on the shelf and in  
18 the event of a design basis fire or some other event that  
19 the SFF had to be implemented for, it would be brought out  
20 and installed at that time.

21 So these are not like motors and breakers that are  
22 on the shelves anywhere. These are specific set of  
23 components that are called out in their procedures that need  
24 to be installed in the event of a certain DBE or DBA.

25 MR. GRIMES: I'd also like to add, to clarify the

1 point about the treatment of this equipment, although it's  
2 active, they are active components, but what we revealed  
3 through this evaluation was that the foundation of the  
4 license renewal rule is basically predicated on the  
5 maintenance rule being able to provide a means to verify the  
6 reliability of active equipment.

7           And for these components, when they're sitting on  
8 the shelf, they are not tested and they don't fit the  
9 description of why we excluded active components from the  
10 scope of license renewal. So we pursued it from the  
11 standpoint of making sure that we had reasonable assurance  
12 that this equipment in storage was, in fact, going to fit  
13 within the context of the underlying concepts of the rule.

14           That's why we felt that it was important to  
15 address this equipment.

16           DR. UHRIG: The fact that they do perform some  
17 testing on this makes it then --

18           MR. GRIMES: Provides us with reasonable assurance  
19 that when the equipment is called on to perform its intended  
20 function, it will operate properly, but it doesn't -- when  
21 you look at the description of the license renewal rule, it  
22 says that active equipment does not need to be subjected to  
23 an aging management review because it's constantly being  
24 checked.

25           Well, this didn't fit that explanation. So we

1 felt it was important to capture that in the evaluation  
2 basis.

3 MR. MITRA: Thank you very much.

4 CHAIRMAN BONACA: Mr. Mitra, might this be a good  
5 point to break?

6 MR. MITRA: Yes.

7 CHAIRMAN BONACA: Let's take a break until quarter  
8 after ten.

9 [Recess.]

10 CHAIRMAN BONACA: Let's resume the meeting. Dr.  
11 Lee?

12 DR. LEE: My name is Sam Lee. I'm to discuss  
13 Chapter 3 of the SRP. Chapter 3 is the aging management  
14 review, and this is where the GALL report fits into the SRP.  
15 I'm not going to discuss the aging management programs here  
16 and you will hear the discussion this afternoon and tomorrow  
17 with respect to the GALL report.

18 But in the SRP, what we have done is that we  
19 referenced the GALL report as the technical basis document.  
20 So when GALL says a program is adequate and provides a  
21 basis, the SRP does not direct the staff to repeat this  
22 review of those programs.

23 But if the GALL report indicates that a program  
24 should be augmented, the SRP will point the staff to that  
25 direction and focus its reviewing areas where the program

1 should be augmented.

2 And for the April version of the early draft SRP,  
3 we did not receive any comment from NEI in Chapter 3.  
4 Instead, they chose to comment on GALL and that will result  
5 in changes in Chapter 3 of the SRP.

6 And some of the license renewal issues that apply  
7 to Chapter 3 are the FSAR content. The license renewal rule  
8 requires an FSAR supplement summarizing the aging management  
9 program.

10 In Chapter 3 of the SRP, we provided such a  
11 summary and we also provided some in Chapter 4 for TLAA,  
12 also.

13 Then the other two license renewal issues relating  
14 to commitment tracking, say the licensee or applicant  
15 commits to some aging activities in the future, how do we  
16 track that. And based on the experience from the two  
17 initial licenses, renewal licenses, those are handled by  
18 license conditions and the SRP reflects that.

19 And I'm not going to talk about Chapter 3 anymore.  
20 As I said, you'll hear the individual technical discussion  
21 on the GALL chapters today and tomorrow.

22 Instead, I will go into Chapter 4. With me, I  
23 have colleagues from Division of Engineering to answer  
24 questions relating to the TLAA. I've got Barry Elliot, Shou  
25 Hou, Paul Shemanski, and Kamal Manoly. They are from

1 Division of Engineering, NRR.

2 The license renewal rule requires an evaluation of  
3 time limited aging analysis. Those are analysis that have a  
4 40-year assumed operation in the analysis.

5 The first step is to identify them and that is the  
6 purpose of Section 4.1 of the SRP is to reveal the list that  
7 has been identified by the applicant.

8 And in the 4.1, we provided some examples of what  
9 TLAA -- the initial applicants have identified. We know  
10 TLAA's are plant-specific. They depend on the plant CLB and  
11 the rule provides a definition of what they are.

12 But before it would be helpful to reveal some  
13 examples, but NEI was saying those examples are not  
14 necessary, but we think they are. So we are keeping those  
15 in the SRP.

16 DR. SEALE: There is no suggestion that your list  
17 is complete, is there?

18 DR. LEE: No, there is no suggestion, not on the  
19 SRP.

20 DR. SEALE: That's the only danger I could see, is  
21 if someone felt that they satisfied such a list, that they  
22 were home free in that regard.

23 DR. LEE: I think NEI's concern is that we will  
24 use the lists and not RAIs for every one that did not get  
25 identified by an applicant. And that is not really the

1 intent.

2 That gets to the second bullet. NEI suggests  
3 instead of asking an RSI for every TLAA in that example  
4 list, that the applicant did not identify, that we really  
5 should stop at the FSAR and not a licensing document, we  
6 look at and see if there's any TLAAs or anything that would  
7 apply to the plant.

8 So we agree to that and we'll actually make that  
9 change.

10 CHAIRMAN BONACA: So what change will you make?

11 DR. LEE: We put that in there to say this is not  
12 important, to stop at the FSAR, rather than use the list of  
13 examples. They indicate the impression that you start with  
14 examples.

15 DR. UHRIG: What is the updated FSAR?

16 DR. LEE: The August version, yes. The April  
17 version was the early one, just to engage the stakeholders.  
18 For the August version, we actually make that change.

19 So when you see NEI comments today and tomorrow,  
20 those are pre-August.

21 And here now we get into some technical  
22 evaluations. The first one, Section 4.2, that's on the  
23 reactor vessel embrittlement and that is a TLAA and one of  
24 the things that NEI commented on the April version is that  
25 we included the reactor vessel surveillance program as TLAA,

1 and NEI responds that, gee, that is not a calculation, it's  
2 just a program in there. So we realize there need to be  
3 extended for license renewal, but they characterized it as  
4 an aging management program rather than a TLAA.

5 The result is the same. You still need to have a  
6 monitoring program, but we agreed, we said, okay, we put it  
7 under the aging management program.

8 Another comment they have is on the  
9 pressure/temperature limits. They want to emphasize that  
10 the pressure/temperature limit is such as required by  
11 Appendix G. So we said that's fine, so we incorporated  
12 that.

13 And there's one license renewal issue, that's  
14 pressurized thermal shock and we included that in Section  
15 4.2.

16 And the next TLAA --

17 DR. LEITCH: Sam, these issues on table 4.1.2, the  
18 potential time limited aging analysis, I'm looking at the  
19 Chapter 10 of the GALL. Are those parallel? In other  
20 words, is the intention that in Chapter 10, the goal, there  
21 be a discussion of each one of these issues?

22 DR. LEE: No, there is not. The way Chapter 10 --  
23 I can show you in the next slide. In the initial license  
24 renewal application review, some applicants have proposed  
25 aging management programs to address that TLAA.

1           And those are captured in Chapter 10. So we  
2 captured experience in Chapter 10. There were a few, there  
3 were like -- there is stress and there is one more, EQ.

4           Those are the initial license renewal applicants  
5 and then they all used the aging management program approach  
6 to address the TLAA, and because there is an aging  
7 management program type approach, we put it into this new  
8 Chapter 10.

9           That was the NEI suggestion to create Chapter 10  
10 for the some of the TLAA information. But it's not a  
11 comprehensive list. Those are the ones that we actually  
12 tackled in the applications and we feel comfortable that we  
13 should document them.

14           DR. LEITCH: So we should view -- well, we'll talk  
15 more about Chapter 10 when we get to the goal, but I guess  
16 we should view that as examples.

17           DR. LEE: That is correct.

18           DR. LEITCH: Rather than a complete list.

19           DR. LEE: Yes. It's more -- this is actual  
20 experience, the ones which were accepted and were documented  
21 in Chapter 10. In Chapter 10, those are acceptable. That  
22 is not complete, I guess. In the future, when we get more  
23 experience, that will probably expand.

24           DR. SHACK: Sam, I missed a chance to ask a  
25 question about the PT limits. In the draft SRP, existing PT

1 limits are valid during the period of extended operation  
2 because the neutron fluency projected to the period of  
3 extended operation is bounded by the fluency assumed in the  
4 existing analysis.

5 Is that true?

6 MR. ELLIOTT: That's an option. There are plants  
7 that give us very conservative pressure/temperature limits.  
8 A lot of plants don't have a big embrittlement problem.  
9 They have a small embrittlement program.

10 So they may give us pressure/temperature limits  
11 that go out for 40 years or more and they -- and then they  
12 recalculate the fluence in the year 25 or something and it's  
13 a very conservative number.

14 So those pressure/temperature limits which were  
15 good for 40 years may go for 60 years, depending on the fuel  
16 cycles and how the fuel cycle affects the neutron fluence.

17 It doesn't happen for all plants. It's a way of  
18 complying with a TLA that's an option.

19 DR. SHACK: Okay. This just reads funny.

20 DR. LEE: I guess that got brought up. The way  
21 the rule says for TLAA, there are three options for an  
22 applicant. One, just like Barry said you can show us that  
23 your TLAA is so conservative that it's actually valid for 60  
24 years.

25 The second option is you just extend your analysis

1 from 40 to 60. The first option is to go with an aging  
2 management program, to address that aging management program  
3 and that's the Chapter 10 approach, is to use the aging  
4 management program.

5 Section 4.3, that's on fatigue. We have a GSI-190  
6 on the environmental effects on fatigue and in the initial  
7 license renewal applications, the applicants had an analysis  
8 to address their GSI-190, environmental effects, and the SRP  
9 captures that.

10 And NEI's comments -- well, the way the SRP and  
11 the initial applicants addressed GSI-190 is basically by  
12 analysis to modify the fatigue curve and try to incorporate  
13 that.

14 And NEI's comment is in the future, there might be  
15 inspection or enhanced inspection that can address  
16 environmental effects.

17 The staff has not reviewed or accepted this as an  
18 approach. So we did not include that into the SRP.

19 And the issues are basically fatigue, so there's  
20 not much there. And like I indicate, in here, we accepted a  
21 fatigue monitoring program in the initial -- I guess the  
22 initial applicants and Chapter 10 reflects that and the SRP  
23 says that is one acceptable way to address this TLAA.

24 Are there any questions? Okay.

25 The next one is section 4.4, that's environmental

1 qualification, EQ of electrical equipment. This one, we  
2 actually spent a lot of time in the initial applicant review  
3 and actually was one of the, I guess, the programs that NEI  
4 pointed to when they raised the credit for existing program  
5 issue.

6 It's an existing program, why does the staff spend  
7 so much time reviewing it, and what we found out is that for  
8 EQ, there are certain things that -- like the analysis of  
9 the qualified life, we need more information on that and  
10 then after we have gone through the first license renewal  
11 applicants, we capture their experience in Chapter 10.

12 And NEI commented on that and we are very  
13 comfortable with what is in Chapter 10 as an acceptable EQ  
14 program, they will manage EQ, and the SRP refers to that as  
15 one acceptable way to address the EQ.

16 And that is basically the NEI comment. They  
17 commented through Chapter 6 of the GALL report on electrical  
18 equipment and then they requested us to make the conforming  
19 changes and we did that.

20 Any questions?

21 DR. UHRIG: This is tied in to Generic Issue 168.

22 DR. LEE: That's correct.

23 DR. UHRIG: And that is to be resolved in the not  
24 too distant future.

25 MR. ELLIOT: Yes, that is correct. I believe

1 GSI-168 is currently scheduled to be resolved by the end of  
2 December and if you recall, recently, ACRS was briefed on  
3 the status of 168.

4 DR. UHRIG: Which is long before the next plant  
5 application is under consideration.

6 MR. GRIMES: Long is a such a fragile phrase. The  
7 safety evaluation for Arkansas, safety evaluation with open  
8 items is scheduled to be completed, I believe, in January.

9 So we're going to be challenged to complete the  
10 safety evaluations for the three plants under review and  
11 fold in the recommendations of that effort.

12 DR. LEE: The next item is Section 4.5, that's on  
13 containment stress. Also, this is one of the three  
14 write-ups in Chapter 10. We accepted the containment stress  
15 program in the initial applicants, so we documented that in  
16 Chapter 10 and the SRP points to it as an acceptable  
17 program.

18 And I guess NEI indicated that the program is not  
19 really TLAA, but we disagree with that. The tendon is there  
20 for 40 year analysis. So we kept that in the SRP.

21 And, also, NEI provided comments in, I guess,  
22 through Chapter 2 of the GALL report on the containment  
23 tendons and we incorporated that.

24 CHAIRMAN BONACA: Why did NEI feel that this was  
25 not a TLAA?

1 DR. LEE: They say it's a program, they say it's a  
2 monitoring program. So it's doesn't involve calculation on  
3 the program part, even though you have these tendon stress,  
4 the calculation -- to us, the whole thing is kind of rolled  
5 into one. You have the calculation, you get monitoring to  
6 make sure your protection is correct. So we roll it all  
7 together.

8 CHAIRMAN BONACA: Okay.

9 DR. LEE: It's a matter pending. Do you just call  
10 it TLAA or do you call it aging management program, the  
11 outcome is still the same.

12 DR. SEALE: That's semantics, for crying out loud.

13 DR. LEE: But for the rule, yes, because the rule  
14 required them to identify TLAAs.

15 CHAIRMAN BONACA: The thing is that would preclude  
16 one of the three approaches that you are proposing for  
17 resolution of TLAA.

18 DR. LEE: Yes, but for tendons, based on the  
19 experience of the initial license renewals, they are all  
20 down here based on the program. They all rely on programs.

21 CHAIRMAN BONACA: The second option you outlined  
22 before was show that it's bound by analysis. So in case you  
23 are not within those curves, you can extend those, and if  
24 you do not do that, then you have to automatically implement  
25 an aging management program. It's the only option you

1 reserve. All right. I understand now.

2 DR. LEE: Right.

3 DR. SEALE: The guys at Oconee certainly paid a  
4 lot of attention to it.

5 DR. LEE: Section 4.6, that's on containment liner  
6 fatigue. NEI recommended as to look at the comment on  
7 fatigue, they provided on Section 4.3, and we did that. We  
8 had a discussion with NEI on that and we actually made some  
9 changes, I guess, based on the meeting we had. We actually  
10 have some understanding of what this section was supposed to  
11 cover.

12 Those are the kind of more generic kind of TLAAs  
13 that we expect most plants would have. So we have the SRP  
14 specifically for those. But there are other TLAAs that are  
15 plant-specific, so we have this 4.7, which provides generic  
16 staff guidance, which kind of describes the three options  
17 for TLAA; if someone has a certain TLAA, what those three  
18 options mean.

19 And NEI has a very minor comment on that and the  
20 last one, the issues there all relate to the third option,  
21 the aging management program option. This is the '97  
22 timeframe. At that timeframe, we were unsure in terms of  
23 what that means, but since we've gone through some license  
24 renewal applications, we feel now we have these three  
25 examples already. So we know better what that means. So

1 the SRP has been revised to reflect that.

2 Is there any questions on TLAA, Chapter 4, SRP?

3 [No response.]

4 DR. LEE: Then I'll go to the appendix, which is a  
5 branch technical position.

6 CHAIRMAN BONACA: Let me ask a question. You're  
7 practically at the end of the SRP review of the list of  
8 issues raised by the industry.

9 The question I have is when you look at the  
10 plant-specific operating experience, it's not really  
11 discussed in the SRP. It's discussed in the GALL report.  
12 It's one of the ten criteria that you're using.

13 And maybe you want to discuss it then when we  
14 review the GALL.

15 DR. LEE: Yes, the GALL report. That's a good  
16 lead-in into this branch technical position. This branch  
17 technical position, the A-1, describes how you -- the  
18 generic approach to your program, based on the ten elements,  
19 the ten program elements.

20 One of the elements is operating experience. So  
21 it describes that that program will have -- good experience  
22 that shows that the program is effective, if you actually  
23 had degradation, if you actually modified your program to  
24 address the degradation.

25 So this actually described generically in this

1 branch technical position.

2 In the GALL report, we had actually followed this  
3 guidance in preparing the GALL report, and, also, in the  
4 initial license renewal application reviews, we had to  
5 follow this guideline.

6 CHAIRMAN BONACA: One thing that was clear in the  
7 GALL report is that there is a body of experience also from  
8 the whole industry in general that is applied in those ten  
9 criteria which you're looking at.

10 I just was wondering more about the plant-specific  
11 experience. I mean, experience that a plant may have, say,  
12 a BWR may have had a crack in the sparger. We haven't  
13 looked at BWRs yet, but -- and so there maybe some specific  
14 concerns with those components there and typically that kind  
15 of experience is summarized in the application.

16 I think the introductory chapter, there is one  
17 operating experience. And how is it addressed specifically  
18 for the plant? A plant unique experience. Now, I  
19 understand the spargers have broken in different plants, so  
20 it be generic.

21 DR. LEE: For the sparger case, those are generic  
22 and we've already captured them.

23 CHAIRMAN BONACA: What if there is something very  
24 unique about a plant that says a component really needs to  
25 be paid attention to because it went through some experience

1 that is unique?

2 DR. LEE: The way the GALL -- I guess in the  
3 chapter, the first thing we start out with is to identify  
4 the applicable aging effects. One of the things in this  
5 section we said is you look at the industry-wide experience  
6 and you also look at your plant-specific experience to  
7 identify aging effects.

8 So your plant -- if you have a certain situation,  
9 you crack a certain component, that's how we identify the  
10 aging effect. That's how we get to the applicable aging  
11 effects. So that's one input into identifying that.

12 CHAIRMAN BONACA: And that's still addressed in  
13 the GALL.

14 DR. LEE: It's actually in the SRP.

15 CHAIRMAN BONACA: One of the criteria of the GALL  
16 report.

17 DR. LEE: That's correct. Actually, the way, if  
18 you look at Chapter 3 of the SRP, it says on the actual  
19 applicant's GALL report, before they can say the GALL report  
20 applies to them, they have to go through and say, yes, my  
21 plant actually looks like GALL.

22 If GALL says this component doesn't crack and then  
23 for your plant it actually cracks, GALL isn't applied to  
24 your plant.

25 CHAIRMAN BONACA: But let me just give you an

1 example. Assume that you read the application and I  
2 remember still some of the one we read for BG&E and for  
3 Calvert Cliffs and for Oconee, and they were pretty  
4 abbreviated in some of the events. So now I'm trying to  
5 understand how a reviewer is going to really understand the  
6 issue clearly and see how it's carried through in the  
7 evaluation of certain components.

8 I am trying to understand how that process works.

9 MR. LEE: It is reliant on applicant to identify  
10 the specific issues. And also we have inspections that we  
11 do for license renewal, and actually for the Oconee case, on  
12 electrical, I guess -- we actually gone to the site.

13 We had to pull the maintenance records, and found  
14 certain latent effects that the applicant did not identify  
15 in the application.

16 Okay, so we actually tried to verify some of the  
17 information. So you do have, in fact, inspections that you  
18 do, I remember that.

19 CHAIRMAN BONACA: A free inspection.

20 MR. LEE: Yes, you do that, one inspection that  
21 looks at the aging effects and the program that they claim.

22 CHAIRMAN BONACA: Now, that phase of -- you know,  
23 of action is non-specific. It's identified in the SRP, yes.  
24 All right.

25 MR. LEE: I guess we spent a lot of time on that

1 already, and we did not receive any comment from NEI for the  
2 April version.

3 And actually, in fact, NEI revised the 95-10 to  
4 incorporate this information, these ten program elements,  
5 okay, to be consistent.

6 This is the process we use to perform the initial  
7 review and prepare the GALL report.

8 And the next branch position is on quality  
9 assurance. And the way the -- we evaluate the aging  
10 management program, we're looking for corrective action,  
11 administrative control and such QA type activities.

12 And we have written up a position relating to  
13 Appendix B, to Part 50, and that is in this technical  
14 position.

15 And do you have any question on that?

16 CHAIRMAN BONACA: I may be jumping from one to the  
17 other, but it seems to me that any time you find that an  
18 existing program is not sufficient, then there is a  
19 reference to going to the Branch Technical Position for  
20 guidance, right?

21 MR. LEE: That's correct, right now, yes. We  
22 realized that's one of the things that we probably need more  
23 work in the SRP, because now it just points to that and kind  
24 of stops.

25 CHAIRMAN BONACA: That's right, you stop there and

1 there is no further understanding of what the criteria are,  
2 what you have to do. You go to the GALL, and you look for  
3 some programs, and you say that you see it says more is  
4 needed.

5 MR. LEE: That's correct, yes.

6 CHAIRMAN BONACA: In some cases, there is a  
7 definition of what the "more" is, and in many cases, there  
8 isn't anything.

9 MR. LEE: The way we tried to do it is, we tried  
10 to capture experience from the license renewal reviews.

11 CHAIRMAN BONACA: Yes.

12 MR. LEE: In cases, we actually come to a  
13 position, so to speak, and then we capture that. But in a  
14 lot of cases, they are plant-specific, they go this way and  
15 they go that way, so we had a hard time in terms of how to  
16 capture in GALL, so we kind of left it, and then we further  
17 reviewed it to the generic items.

18 We understand that we need more work in that area.  
19 We know that.

20 CHAIRMAN BONACA: Is the GALL report intended to  
21 be a living document?

22 MR. LEE: We intend to update this when we capture  
23 additional experience, but the timeframe, we don't have a  
24 timeframe for that yet.

25 CHAIRMAN BONACA: But you intend to reflect the

1 experience in the future?

2 MR. LEE: That's correct, yes.

3 CHAIRMAN BONACA: Okay. You know, would it be  
4 worthwhile -- I understand that would imply commitment on  
5 your part, but would it be worthwhile to indicate that in  
6 the characterization of the GALL report?

7 I mean, I've seen a big improvement in the GALL  
8 report from the first time I looked at it, and what is being  
9 presented now. And if there is an intention to by some  
10 means to keep it a living document that would reflect the  
11 additional experience with the new plants, that would be  
12 worthwhile to point it out somewhere.

13 MR. LEE: Okay, that's a good comment. We  
14 understand.

15 MR. GRIMES: Dr. Bonaca, I'd like to add, I think,  
16 my reluctance to do that at this point. It was an  
17 expectation that it might be possible for us to merge GALL  
18 and the SRP. And at this point, that's an insurmountable  
19 task in the near term.

20 But I do think that it would be valuable to point  
21 out that in whatever form it evolves to in the future, that  
22 we would intend to continually improve it and add new  
23 experience.

24 CHAIRMAN BONACA: Most of all, at least it will  
25 provide an answer to why there isn't any further guidance.

1 I think you gave us a good explanation here. I understand  
2 it that there is no experience, but I think that, you know,  
3 if you say that, then the -- there is no casual reader here,  
4 but whoever --

5 [Laughter.]

6 MR. GRIMES: Get's sucked in.

7 [Laughter.]

8 CHAIRMAN BONACA: Gets sucked in, right, because I  
9 think you're going to have new plants coming in, and they're  
10 going to start anew and maybe to wonder why there is no  
11 further guidance there.

12 And I think you gave us a good reason, but I think  
13 it should be documented somewhere.

14 MR. LEE: The Branch Technical Position is on the  
15 generic safety evaluations. This position indicates that  
16 certain TSIs are those in NUREG 0933, and that needs to be  
17 -- that should be addressed for license renewal, because  
18 they relate to aging, so these position states certain  
19 criteria that someone can go through, or some process  
20 someone can go through, NUREG 0933 and identify those  
21 issues.

22 We gave some examples. And one of the examples is  
23 TSI-173, the spent fuel storage pool.

24 And the way we characterized it in the SRP, we  
25 said that it is closed or nearly closed, but I guess that as

1 things turn out, that is still open.

2 So, but then when we look at this again, we found  
3 out that this issue doesn't relate to aging, so that's not  
4 need to be addressed anyway.

5 Okay, so we'll probably make some changes for the  
6 --

7 DR. KRESS: What was your conclusion that the  
8 spent fuel storage pool doesn't have aging issues; what was  
9 that based on?

10 MR. GRATTON: This is Chris Gratton again.

11 DR. KRESS: The concrete walls could age.

12 MR. GRATTON: It's not so much that the spent fuel  
13 pools don't have aging effects; they're captured by the  
14 rule. It's the GSI-173(a), itself, looked at a specific set  
15 of design issues, and we went back and we looked at how  
16 those design issues were being played out with respect to  
17 their license basis.

18 And they were not --

19 DR. KRESS: So you're not excluding the pool?

20 MR. GRATTON: No, no, the structures and the  
21 components that support the pool are all within scope. The  
22 racks are in scope, all of items are in scope. It's just  
23 the specific design issues that were in 173-A.

24 DR. SEALE: Are you trying to tell us that all of  
25 the GSIs that have application to plant aging have now been

1 resolved?

2 MR. GRATTON: I get all the good questions. No,  
3 sir, I don't believe that's what we're trying to say at all.

4 And actually, I'd ask what gave you that  
5 impression?

6 [Laughter.]

7 DR. SEALE: The fact that 173 showed up this way,  
8 sort of suggested to me that here's one, but it doesn't  
9 really -- I mean, it's not resolved, but it doesn't really  
10 apply to this case.

11 MR. GRATTON: I think the reason 173(a) showed up  
12 was because we were trying to remove it from the list that  
13 they had to address when they sent an application in,  
14 because we said that it was closing, and we were a little  
15 bit premature to say that it was being closed.

16 We were removing it because we said it closed; not  
17 because it didn't have aging effects. So the changes, the  
18 item of interest is the fact that we are going to eliminate  
19 it from the list, but because the issues in 173 are not  
20 aging-related, and that's the difference.

21 MR. GRIMES: As a matter of fact, we went through  
22 all of the GSIs, and evaluated them specifically in terms of  
23 is there an aspect of the GSI that needs to be resolved for  
24 the purpose of a license renewal decision?

25 And in order to get to that conclusion, we look at

1 the GSI to determine whether or not there is any unique  
2 aging-related issue that needs to be addressed.

3 GSI-190 and GS-168 are the ones that popped out as  
4 these involve particular aspects of aging that need to be  
5 considered for the purpose of license renewal. But the  
6 others, we wrote out an evaluation that explained why those  
7 issues can remain open and not require some unique decision  
8 for the purpose of license renewal.

9 DR. SHACK: So you have such a list?

10 MR. GRIMES: We have such a list.

11 DR. SEALE: And that list does not include things  
12 which require immediate resolution in order for you to be  
13 able to do this job?

14 MR. GRIMES: That's correct.

15 DR. SHACK: Then why isn't that list in the SRP  
16 then?

17 MR. GRIMES: Because we were trying to figure out  
18 a way to interface the Standard Review Plan with NUREG 0933,  
19 because GSIs will continue to evolve, and we didn't want the  
20 SRP to necessarily be dependent on the evolution of GSIs.

21 So we describe a process for addressing GSIs.

22 DR. SEALE: Okay, Chris, this is a good place for  
23 me to ask a question, another question I had. That is,  
24 we've looked at some of the GSIs and the way in which they  
25 have been resolved.

1           And I think we've commented in the past that there  
2 seemed to be a lot of what I'll call sharpshooting in the  
3 resolution of the GSI, namely, you identify an issue, you  
4 put together the full scope of the issue, and then you look  
5 at a part or the approach to that issue, really in a fairly  
6 restricted area.

7           And you determine how that issue will be treated,  
8 and you then in some cases, I have to say, it seems like,  
9 willy-nilly, declare the whole issue to be resolved. And  
10 that's what I call sharpshooting, that is, you really didn't  
11 resolve all of the issue; you resolved the issue in a narrow  
12 sense, and it may have been complete as far as the status of  
13 the problem was at that time.

14           I guess what I'm worried about is that I can see  
15 things which have been declared as resolved generic safety  
16 issues in that narrow context, reemerging as you look at the  
17 conditions that might exist under life extension.

18           Have you looked at the GSIs that are resolved and  
19 asked yourselves, are these guys going to stay in bed?

20           MR. GRIMES: Or stay six feet under.

21           DR. SEALE: Wherever you put them and took care of  
22 them, yes.

23           MR. GRIMES: Let's see, we're going to start with  
24 the process piece. The process piece is that the Office of  
25 Research went through and looked across all of their generic

1 safety issues, with an eye towards whether or not the  
2 problem definitions captured license renewal.

3 And the process is in going to continue to evolve  
4 in the future because the 0933 process was created at a time  
5 where there were lots of questions being raised, the  
6 definition of the problems was being treated almost on an  
7 assembly line basis.

8 And now the nature and the role of Research is  
9 evolving. And so I expect to see process changes.

10 But I would point to the controversial resolution  
11 of GSI-190, where the answer specifically addressed the  
12 question that was posed, relative to the need for any  
13 backfitting requirements for fatigue analysis.

14 But it also included a consideration of what is  
15 appropriate for license renewal. And that caused a bit of a  
16 stir, but I think it was the right thing to do, and I expect  
17 that we would continue to do the right thing as future  
18 generic safety issues are resolved.

19 There's a need for the process to have a clear  
20 scope definition and a clear mission statement.

21 DR. SEALE: Yes.

22 MR. GRIMES: That doesn't necessarily preclude us  
23 from looking beyond the specific answer to the question, to  
24 the broader implications for license renewal or other policy  
25 issues.

1 DR. SEALE: And I agree that that was a very good  
2 example. But in a sense, you could see the plume of dust  
3 coming down the road towards you, that the licensing renewal  
4 issue was raising.

5 And you knew that you were going to have that  
6 problem. Now, are there questions in the past which were  
7 resolved at a time when license renewal was not a  
8 particularly visible possibility that might require  
9 reexamination?

10 MR. GRIMES: I would contend that if there were,  
11 they were revealed through the process of going through  
12 GALL, and looking at the typical treatment of system design,  
13 vis a vis the aging management programs.

14 I am not going to believe that some of those  
15 resolved issues will stay resolved forever, because I think  
16 that some of those issues might emerge again in the future  
17 as new operating experience puts a different perspective on  
18 the nature of the question.

19 DR. SEALE: That's as good an answer as I can  
20 expect at this time.

21 MR. GRIMES: And we want to emphasize that there's  
22 a process aspect of license renewal that says that we do not  
23 expect that the current licensing basis or an extended  
24 licensing basis is going to -- is fixed.

25 We expect that the process, as it evolves in the

1 future, might identify new regulatory requirements that may  
2 have to be backfit on renewed licenses differently than they  
3 would be backfit on 30-year licenses.

4 DR. SEALE: Okay, that answers my question.

5 CHAIRMAN BONACA: I have a more general question I  
6 would like to ask. You know, regarding the spent fuel pool,  
7 I mean, I guess from the beginning there was a feeling in  
8 the early designs and even in current designs, that the fuel  
9 that is inside the reactor has a number of barriers from the  
10 cladding to the RCS to the containment and a lot has been  
11 done to talk about that, to defend those barriers, to do all  
12 those things.

13 Now, the spent fuel pool is a different thing. It  
14 still has a number of active systems, like, for example, the  
15 spent fuel pool cooling system that for some plants, and  
16 maybe for many plants, is not part of the licensing basis.

17 We have seen examples of those, and so therefore  
18 there are no programs addressing those components, except in  
19 an example we have seen where the statement was that in the  
20 case there was a loss of inventory to the pool, then it  
21 could may be made up through high pressure injection that is  
22 a safety grade system which falls into the scope of license  
23 renewal.

24 I am still wrestling with that issue, if there is  
25 an oversight tied to the whole history of the licensing of

1 these power plants, with a specific issue of the pool versus  
2 whatever is inside the reactor. And I just would like to  
3 have your thoughts about that.

4 I mean, the results of it is that you have a lot  
5 of components which are not going to be in the scope of  
6 license renewal for the spent fuel pool. You're relying on  
7 an emergency system that will have to make up water as you  
8 begin to lose it.

9 And, granted, there are a lot of considerations  
10 there insofar as timing available for those actions, but  
11 still it left a question in my mind, you know, the box of  
12 the rule is too tight for this particular issue.

13 MR. GRATTON: As far as the review of spent fuel  
14 pool cooling systems and the design of those storage  
15 facilities, you can kind of break them up into two groups:  
16 the ones where there's cooling systems that are  
17 safety-related, and in which case, a boiling event that  
18 results in evaporation of water from the system is not  
19 within their design basis. They're not design to have a  
20 boiling event.

21 Because the seismic -- because the pools  
22 themselves are seismically-qualified, you're not going to  
23 have, within the design basis, a loss of the coolant below  
24 whatever the design limits are, you know, the physical  
25 penetrations of the pool.

1           So, in that group of plants, you have a cooling  
2 system that will prevent boiling, and you have a  
3 seismically-qualified pool itself that will retain the  
4 water.

5           CHAIRMAN BONACA: And the cooling system is within  
6 the current licensing basis?

7           MR. GRATTON: And it would be within the current  
8 licensing basis. The other group of plants are the ones  
9 that you're speaking to right now.

10           And within their licensing basis, they're required  
11 to have a seismically-qualified safety-related makeup water  
12 system or a redundant, one that satisfies the Staff's  
13 review, a series of these things that provide some sort of  
14 defense-in-depth, let's call it, you know, several of these  
15 makeup systems that provide, you know, additional coolant  
16 inventory in the event that there is a boiling event.

17           The pool is still required to be  
18 seismically-qualified. And also there are no drains to the  
19 pools, or the capability of siphoning the pool, in the event  
20 that the cooling water system was as source of a siphoning  
21 event.

22           There are passive anti-siphon devices on all of  
23 the penetrations that go into the pool, so they can't begin  
24 a siphoning event.

25           So the way that you would maintain water in the

1 spent fuel pools is through this CLB makeup water system.  
2 That would be included within the scope of license renewal  
3 because it addresses a design basis event for the pool,  
4 which would be some sort of a loss of cooling or a seismic  
5 event that would take out the cooling loops on the  
6 non-seismically-qualified systems.

7 If they were also required to have a ventilation  
8 system to support that process of ventilating the pool, that  
9 would also be included within the scope.

10 But those calculations would be described in the  
11 SER, and that would capture them within the scope of license  
12 renewal. So when the Staff goes to do their review, they  
13 have to assess what is in the documents that describe the  
14 licensing basis, and ensure that the licensee has included  
15 those on the diagrams, the scoping diagrams, or somehow else  
16 captured a description of those components and included them  
17 in there.

18 So, to summarize, the ones that are  
19 seismically-qualified, the cooling water systems, they're  
20 clearly within there, and you would expect to see them.

21 The other ones are not so clear, and you'd have to  
22 identify which systems they rely on to provide makeup water.

23 CHAIRMAN BONACA: I understand that. And on the  
24 other hand, you've talked about mitigation. The question I  
25 had was more about if you have piping connected to the pool

1 that is not being monitored for degradation, could you  
2 postulate that the frequency or the probability of a leakage  
3 through, for example, a hole in one of these pipes could  
4 increase the frequency of a spent fuel pool drainage?

5 Are you looking at those things when you're  
6 looking at an application? Are you checking that there are  
7 no check valves in the pipes?

8 MR. GRATTON: That's part of the current licensing  
9 basis. That's a Part 50 question about the adequacy of the  
10 design. We bring that in, the Part 50 design, into Part 54.

11 We know what the Part 50 design is, and we just  
12 make sure that they have included the components that are  
13 relied upon in Part 50.

14 CHAIRMAN BONACA: Okay.

15 MR. GRATTON: To ensure that, so --

16 CHAIRMAN BONACA: So, you're looking -- I mean,  
17 so, even for the older set of plants, there is a review of  
18 that and a determination of whether or not the frequency of  
19 the draindown is increased by the aging of components?

20 MR. GRATTON: We do not look at whether or not the  
21 frequency of a draindown is increased by the aging of those  
22 components. As far as reviewing a spent fuel pool  
23 application, you know, in the largest sense, when you go in  
24 to look at that review and you say what would a seismic  
25 event do to this system? What do you assume?

1           It doesn't make any difference whether it's in  
2 year 35 or in year 55, you would assume that the piping  
3 systems have failed and would drain the pool to the  
4 penetration points, and then you'd say, okay, what do they  
5 rely on to maintain the stored fuel in a safe condition?

6           It really doesn't make any difference, whether  
7 they've gone past 40 years or not. You just assume that it  
8 fails.

9           MR. LEE: I can go into the GALL report, if you  
10 like.

11          CHAIRMAN BONACA: I think we should proceed, yes.

12          MR. LEE: Okay, thank you. Can I have Rich and  
13 Yung come up to the table, please?

14          I'm going to start the introduction to the GALL  
15 report. As indicated earlier, this has been a significant  
16 Agency effort involving the NRR staff, the Research staff,  
17 and the contractors, and I have -- from Argon National Lab,  
18 and Rich Morante from the Brookhaven National Lab. They are  
19 the respective Project Managers at the Labs, and Brookhaven  
20 is responsible for the electrical and structural portions of  
21 GALL.

22          And Argon is responsible with the mechanical  
23 portions of GALL, and also the SRP.

24          And the GALL report, we have also been given a  
25 NUREG number, and it would be called NUREG 1801. And it is

1 a systematic evaluation of aging and programs, aging  
2 management programs.

3 It builds on the previous reports, NUREG CR  
4 reports, and this is -- which is based on extensive --  
5 Office of Research, nuclear -- aging research program  
6 results.

7 And the GALL report reviews the -- identifies the  
8 components, and then it identifies the environmental  
9 material that components are in. And then it -- the  
10 applicable aging effects that need to be managed.

11 Identifies the aging management programs; and then  
12 it uses the ten-element generic evaluation to determine if  
13 that program is adequate to manage that aging effect.

14 And if that program is determined to be adequate,  
15 then the GALL report will say no further evaluation is  
16 needed.

17 If not, then a re-evaluation is recommended, like  
18 Dr. Bonaca earlier indicated, some places we would actually  
19 put the -- the -- should be; other places, we would not  
20 have.

21 And this is the two-page format. It goes from the  
22 component all the way across to the program, and the  
23 evaluation and the conclusion.

24 Like we have discussed earlier, we are thinking of  
25 combining these two into a one-page format, maybe combining

1 some of these columns or deleting some redundant  
2 information, and then using what we call the Chapter 11, you  
3 know, more extensively.

4 The GALL report, the big GALL report is called --  
5 which is the -- of all the aging factors and tables, but to  
6 make it a little more user-friendly, we prepared a summary  
7 that we call -- .

8 This describes the process which is the  
9 ten-element evaluation, and then describes how we should use  
10 GALL, so we are going to use GALL as an approved topical  
11 report type, and then reference the SRP and then focus the  
12 staff review in the areas where GALL determines programs  
13 should be augmented.

14 And then we also provided a bridge between the --  
15 , the GALL tables, and the SRP, which captures the essence,  
16 so you go -- from SRP to specific pages in the catalog.

17 And also it has some appendices in here which are  
18 basically indexes, should someone want to look up certain  
19 things, you go to these indexes.

20 DR. LEITCH: I have a couple of very minor  
21 comments that I think would help to make the flow of the  
22 documents a little easier.

23 On the very first page of Volume I, the index, I  
24 think it would be helpful if we said that where tables on  
25 pages 5 through 39, but it doesn't really describe what's

1 going on in pages 5 through 39. See where I mean, the very  
2 first page, Volume I.

3 MR. LEE: Understand. Yes, that's a good comment.

4 DR. LEITCH: And also on page iii, I think it  
5 might be helpful to indicate that the pages referred to  
6 there, beginning, you know, at page 45 and on down, were  
7 page numbers in Volume I.

8 MR. LEE: Okay. Because the heading says --

9 DR. LEITCH: Which is correct, but it might be  
10 helpful if it indicated that those page numbers were pages  
11 from Volume I. They're minor points, but it would just make  
12 it a little easier to read, I think.

13 MR. LEE: Okay. We are so emersed in this thing  
14 that we don't see things like that, so thank you for  
15 pointing that out.

16 Here is the Table of Contents of the GALL report.  
17 And most of the technical evaluations are in Chapters 2  
18 through 8, and you'll hear presentations later this  
19 afternoon and tomorrow, structure-by-structure, and  
20 system-by-system.

21 And the way we have in here, like we discussed  
22 earlier, is this Chapter 10, okay. They are field aging  
23 management programs that addresses TLEAs that we have  
24 accepted in the initial license renewal reviews, and we  
25 documented them in there.

1           And also in here we have the Chapter 11, Aging  
2 Management Programs. The way GALL report is -- double-side,  
3 double-page format, it goes from component aging effects to  
4 program, and then the program ten-element evaluation.

5           That column with the ten-element evaluation gets  
6 very long, and also is very repetitive, because the programs  
7 are repeated, I guess, referred to in many places.

8           So that was actually an NEI comment to create a  
9 Chapter 11 to put the program evaluation just in one place,  
10 okay, and -- from the table.

11           For the August version, we did not have time to  
12 wholesale make the change, so what we did was, for places  
13 that was easier for us to make that change, we did it, so we  
14 put it in Chapter 11, which are the ten-element evaluation  
15 of the programs.

16           And then in the table, we refer to it. And other  
17 places, we just kept with the table, and the way they are  
18 thinking in terms of the single-page format for the final  
19 version, we will probably put -- for the programs to Chapter  
20 11 in one place, and that will be much easier for us, just  
21 to handle the document.

22           CHAIRMAN BONACA: You talk about the final  
23 version.

24           MR. LEE: That's the March one.

25           CHAIRMAN BONACA: The March one, after you get all

1 the comments.

2 MR. LEE: Yes.

3 CHAIRMAN BONACA: So you are going to work on the  
4 format still as you gather new comments?

5 MR. LEE: That's correct.

6 CHAIRMAN BONACA: The question I have is regarding  
7 -- you already have substantial information regarding PWRs  
8 and BWRs. I imagine that the experience for the first two  
9 applications is reflected in this?

10 MR. LEE: That's correct, yes.

11 CHAIRMAN BONACA: What about the BWR VIP program?  
12 Have you --

13 MR. LEE: Yes, we updated this. Actually, there  
14 was an industry comment on that that included VIP, so we  
15 included the VIP.

16 CHAIRMAN BONACA: We have not seen those yet, but  
17 will you please at some point give us a description a little  
18 bit of how you have folded in this information, and what  
19 additional information you expect to see?

20 MR. LEE: Yes.

21 CHAIRMAN BONACA: The question, I guess, I'm  
22 pursuing, is, we have not seen yet any BWR application for  
23 license renewal. I mean, it hasn't come yet as an SER.

24 MR. LEE: I understand.

25 CHAIRMAN BONACA: The Staff has gone through the

1 first application, I imagine, to a substantial degree. Has  
2 that information already been brought inside the GALL  
3 report, and if not, when you finalize this GALL, okay, I'm  
4 expecting to see a lot of new data coming from the first  
5 application of BWR.

6 How are you going to fold that information into  
7 this kind of document, unless it is a living document of  
8 some type?

9 MR. LEE: I understand, yes. This afternoon, when  
10 we discuss Chapter 4, you'll hear about the VIP.

11 CHAIRMAN BONACA: Okay.

12 MR. LEE: That information has been folded into  
13 GALL now.

14 CHAIRMAN BONACA: Okay.

15 MR. LEE: Even though the VIP is not complete, but  
16 we incorporated it. By March 2001, it will be complete.

17 CHAIRMAN BONACA: But again, you'll not be able to  
18 capture the information on the first review of the BWR.

19 MR. LEE: Actually, some -- the NRR staff work on  
20 GALL on reviewing that right now.

21 So we rely on them to bring the information to  
22 GALL.

23 CHAIRMAN BONACA: Please, as you go through the  
24 presentation today, when you have a chance, it would be  
25 interesting to see, you know, how that process took place.

1 MR. LEE: Okay.

2 CHAIRMAN BONACA: Of folding in an ongoing  
3 evaluation of a BWR into this kind of document. Thanks.

4 MR. LEE: Okay.

5 DR. SHACK: The Hatch itself must be a fairly  
6 unique BWR, because it presumably doesn't lean so much on  
7 the VIP documents, because they're not approved yet. I  
8 would expect future BWRs to be heavily VIP-dependent.

9 MR. LEE: I guess all the BWRs are committed to  
10 the VIP program; that's correct. But like I said, Hatch. I  
11 guess Chris wanted to add something to that.

12 MR. GRIMES: Yes, Hatch relies heavily on the BWR  
13 VIP documents as well. And there -- we expect that we're  
14 going to have the BWR VIP SERs completed in time to support  
15 a final safety evaluation for Hatch.

16 DR. SHACK: Now, does the Hatch commodity approach  
17 overlay this structure in some reasonable way?

18 MR. LEE: You mean the format?

19 DR. SHACK: Yes. When people treat things as  
20 commodity groups, how does that sort of match up to this  
21 systemlike approach?

22 MR. LEE: Yes, I guess that's an interesting  
23 question. The way the NEI standard format has it, okay,  
24 they provide an option, a standard format, but then you can  
25 use a system approach or you can use a commodity approach,

1 okay? So it provides links. It's one format and you -- to  
2 it, so if you're a commodity, you point this way; if you're  
3 a system, you point this way.

4 But the overall --

5 DR. SHACK: Covers both?

6 MR. LEE: Covers both, okay, and GALL will be able  
7 to cover both.

8 I'm not going to discuss Chapter 10 and 11  
9 anymore. We have already gone for a TREA. Chapter 11, we  
10 are going to discuss it when we actually talk about  
11 individual structures and components, and so the programs  
12 that come up when you hear the presentation this afternoon  
13 and tomorrow on the structures and systems.

14 DR. SEALE: I don't know, I look at that list, and  
15 then I ask myself, what do I do with a commodity list, and  
16 it looks to me like a bunch of shotgun pellets on that whole  
17 list there. It's distributed, the commodities are  
18 distributed throughout that list.

19 MR. LEE: I guess it depends on how you do a  
20 commodity. If you have a couple of hundred commodities --

21 MR. GRIMES: As in anything in life, you can do  
22 something in the extreme, and make a mess out of a perfectly  
23 good concept. The GALL actually represents a  
24 three-dimensional model, and there is, in my view, an  
25 optimum balance between the level of detail that you go into

1 to describe components and systems and the applicable aging  
2 effects in the level of detail that you put into the  
3 description of the programs.

4 You can go overboard with commodities, but you can  
5 go overboard with systems and then lose the picture about  
6 the aging management programs.

7 So, hopefully we'll be able to reflect on the  
8 Hatch experience and identify some appropriate balance.

9 DR. SEALE: Good luck.

10 MR. LEE: The next presentation is actually a  
11 mechanical presentation, Chapter 2 on containment, and I  
12 think this might be a good place to break, if you want,  
13 unless you want to start getting into technical discussions.

14 Do you want to continue or do you want to break?  
15 From now on, it's all technical discussions of systems and  
16 structures.

17 CHAIRMAN BONACA: Okay, then let's break now and  
18 resume at a quarter to 1:00.

19 [Whereupon, at 11:18, the Committee recessed for  
20 luncheon, to be reconvened this same day at 12:45 p.m.]  
21  
22  
23  
24  
25

## AFTERNOON SESSION

[12:45 p.m.]

1  
2  
3 CHAIRMAN BONACA: Okay, let's resume again, the  
4 Subcommittee Meeting on License Renewal. We are now  
5 reviewing the GALL report.

6 MR. KANG: My name is Peter Kang, and I'm with the  
7 License Renewal, and to my left is David Jeng from DE, and  
8 Jim Costello from Office of Research.

9 And Jim Davis is on the DE staff, and Joe  
10 Braverman is from BNL. They were the ones that reviewed the  
11 content and also we had a lot of coordination among  
12 ourselves and NEI.

13 Okay, for Chapter 2, Containment, so far, we have  
14 NEI comments on the following five items, and the first one  
15 is inaccessible areas and the number one is -- the next one  
16 is the protective coating monitoring and the maintenance  
17 program issues, and then visual examination, BT-1 versus  
18 BT-3 for cracking, and then elevated temperature for  
19 concrete, and the last one is for settlement.

20 As for the inaccessible area, GALL recommended  
21 aging effects of inaccessible area to be further evaluated,  
22 and our basis, our technical basis for the evaluation is  
23 based on NUREG 1611, which states the plant-specific aging  
24 management -- aging effects of inaccessible areas should be  
25 reviewed, even if accessible area doesn't show any sign or

1 indications of degradations.

2 And also, it further identifies four aging  
3 effects. Three of them is a concerned aging effects for  
4 concrete inaccessible areas.

5 And this is due to -- this is -- aging effect is  
6 increasing in porosity and the permeability and the  
7 cracking, spalling, and scaling due to leaching of calcium  
8 hydroxide and aggressive chemical attacks and the corrosion  
9 of embedded steel.

10 And the one concerning for steel liners or steel  
11 structures is a loss of material due to corrosion.

12 So, those are the inaccessible areas. And we had  
13 -- the last NEI response told us they are still evaluating  
14 whether they should agree with the Staff or they disagree.  
15 And also for this area, we have developed aging management  
16 program for IWE-4 for steel and IWL for concrete, and IWF  
17 for inspection of support components for BWR containments.

18 So, the aging management program, it has provided  
19 for -- has developed and it will guide how you evaluate,  
20 what to look for, and what is the technical basis.

21 So, also the next one is protective coating  
22 monitoring and maintenance program. This is to --

23 CHAIRMAN BONACA: Before you move to that, do you  
24 want to --

25 MR. KANG: Do you want to talk about the first

1 one?

2 CHAIRMAN BONACA: I think to see that you're  
3 recommending inspections of the inaccessible areas, right?

4 MR. BRAVERMAN: Either inspection or there is some  
5 guidance in the GALL section, particularly Chapter 3, which  
6 provides agreed-upon criteria, which, if they can  
7 demonstrate, then they can show that that's not a  
8 significant aging effect.

9 For example, you know, for concrete aging effects  
10 below grade, which is not inaccessible, if they could  
11 perhaps monitor the aggressiveness of the groundwater and  
12 show periodically that it does not have aggressive chemicals  
13 beyond a certain threshold, and then that's one way to  
14 address it.

15 CHAIRMAN BONACA: But do you have to have any  
16 indication of an adverse environment in an inaccessible area  
17 before you go to inspection, or does the NUREG directs to  
18 simply implement an inspection, or the management step that  
19 you're recommending?

20 MR. JENG: We want the -- I'm David Jeng. We want  
21 the applicant to address these particular four areas which  
22 Peter just mentioned, locations where it's inaccessible, but  
23 it doesn't indicate degradation going on. It's a standard  
24 position that we wanted, to address this one, considering  
25 plant-specific situations.

1 CHAIRMAN BONACA: But I'm saying so, if the  
2 applicant can say that there is no indication that the  
3 environment present in the inaccessible location could  
4 possibly cause a certain degradation --

5 MR. JENG: That could be one way.

6 CHAIRMAN BONACA: All right, I just wanted to make  
7 sure. So that's considered?

8 MR. JENG: Yes.

9 CHAIRMAN BONACA: All right, thank you.

10 DR. LEITCH: Since this is the first issue we're  
11 speaking about, I'd just like to make sure that I follow  
12 through the GALL report.

13 Which particular issue are you talking about?

14 A.1.1?

15 MR. KANG: A.1.1, yes. That's for the concrete,  
16 yes, and then there is a steel.

17 DR. LEITCH: There are a number of concrete  
18 elements under that.

19 MR. KANG: Yes, sir, that's page -- the first one  
20 is 2-A1-4.

21 DR. LEITCH: 2-A-4.

22 MR. KANG: The bottom one.

23 DR. LEITCH: The bottom one?

24 MR. KANG: Yes, sir.

25 DR. LEITCH: Okay, now --

1 MR. KANG: And then clearly --

2 DR. LEITCH: That then refers us to Chapter 11,  
3 S-2?

4 MR. KANG: S-2 is Chapter -- yes, S-2; in other  
5 words, a structure, Group Number 2, yes.

6 DR. LEITCH: Okay. And in the further evaluation,  
7 it says yes.

8 MR. KANG: Plant-specific, yes.

9 DR. LEITCH: Okay, I understand.

10 MR. KANG: Okay.

11 DR. LEITCH: I just wanted to make sure I had the  
12 right place, and understood it.

13 MR. KANG: That's only for the concrete, and the  
14 steel area is in the BWR or the steel inaccessible areas is  
15 A1-10.

16 DR. LEITCH: Okay.

17 MR. KANG: That has the steel elements and similar  
18 duplications.

19 DR. LEITCH: Okay, thank you.

20 MR. KANG: Yes.

21 Any other questions on the first?

22 [No response.]

23 MR. KANG: Second one is to minimize the loss of  
24 material from corrosion. GALL recommends the protective  
25 coating monitoring, and the maintenance program, to be

1 provided for carbon steel surfaces inside of containment,  
2 such as steel liners and penetrations and hatches.

3 And this also the same title program ANP has been  
4 developed in S8 in Chapter 11 sections. Any questions on  
5 this one?

6 [No response.]

7 MR. GRIMES: I'll point out that there is still a  
8 controversy with the industry on whether or not protective  
9 coatings is a component or a mitigation feature for other  
10 components.

11 So we have an opportunity to clarify that point.

12 MR. KANG: Okay, the third one is the adequacy of  
13 visual examinations between a VT-1 versus VT-3 for cracking.  
14 That is resulted from stress corrosion cracking or cyclic  
15 loading.

16 This area we're talking about -- components we're  
17 talking about is in the penetration sleeves and penetration  
18 bellows or just similar metal welds.

19 DR. UHRIG: Could you distinguish between the VT-1  
20 and VT-3? What are the differences here?

21 MR. DAVIS: VT-1 is the most intense. You have to  
22 be within two feet in a well illuminated surface, where VT-3  
23 is the second. I'm not sure why they put it third, but you  
24 have to be within four feet with the same light, and that's  
25 the difference.

1 DR. UHRIG: Those are visual, still?

2 MR. DAVIS: With VT-2, then, you're six feet away,  
3 you can be six feet away, and you don't need as much  
4 illumination.

5 DR. SHACK: Does VT-1 in this case involve any  
6 sort of resolution of a gray line?

7 MR. BRAVERMAN: I believe there is some  
8 requirement about the size of character that you have to be  
9 able to distinguish.

10 DR. SHACK: Detect, yes. And the code calls for  
11 the VT-3 then, and you're asking for the VT-1?

12 MR. KANG: Yes. That's the main issue, yes, and  
13 the VT-1 with some supplement test as well.

14 So this AMP, Aging Management Program for  
15 examination categories has been addressed in IWE, as well as  
16 Appendix J. This is S-4, I think.

17 DR. SHACK: When you guys endorsed IWE, was there  
18 any kind of a restriction that VT-3 was not very good for  
19 detecting cracking?

20 I mean, the code calls for it all the time. And,  
21 you know, you're just never going to see cracks with it.

22 MR. DAVIS: You're not with the VT-1 or 3.

23 DR. SHACK: Well, you have a better chance.

24 MR. KANG: Okay, the next one is since loss of the  
25 strength in the annulus can occur, it does occur due to

1 elevated temperature for concrete components.

2           And the GALL recommends plant-specific evaluation  
3 should be implemented for any portion of those concrete  
4 components that exceed the temperature limits.

5           And the temperature limit is being 150 Fahrenheit  
6 for a general area, and 200 degrees for local areas.

7           So, this is a region of interest is dome, wall,  
8 and the basement and the annulus area. Any questions?

9           [No response.]

10           MR. KANG: Okay, the next one is settlement  
11 issues. This one is original licensing basis required to  
12 monitor all the licensee to cracks due to settlement and the  
13 reduction in the foundation strength due to erosions.

14           And then if no signs of a settlement or settlement  
15 problems were found for ten years or a decade, the staff  
16 gave approval to discontinue the monitoring.

17           However, for those plants controlled what we in  
18 the GALL report identify here is for those plants  
19 controlling their settlement by using de-watering system,  
20 and GALL recommends the continued operation of those GALL  
21 dewatering systems be verified for the duration of licensing  
22 renewal. That's all we are asking.

23           CHAIRMAN BONACA: I have a question I want to ask  
24 about. The GALL report specifically speaks of PWR concrete,  
25 reinforced or pre-stressed, and steel containment, but also

1 when it goes to BWR containment, it separates Mark II and  
2 III concrete, and Mark I and II and III steel containments.

3 Okay, doesn't Mark I also include certain elements  
4 of concrete that goes with the containment structure? There  
5 is no indication of anything regarding concrete for Mark I  
6 containments.

7 MR. JENG: The Mark I containment there are two  
8 kinds. One is just one particular plant, New Brunswick, was  
9 made of concrete containment, whereas most of Mark I  
10 containments is steel shell containment with backup by the  
11 concrete.

12 CHAIRMAN BONACA: That's right; there was backup  
13 concrete. That was the question I had. It seems like when  
14 I look at the tables, and this was a comment by consultant  
15 who reviewed that, is that for Mark I, there is only a  
16 review of the steel portion. There as no review  
17 specifically addressing the concrete portion.

18 There are backups to the steel that are concrete.

19 MR. BRAVERMAN: I think the concrete that backs up  
20 the steel in the Mark I steel containment is not considered  
21 part of the containment system; it's other concrete  
22 structure, and so that's handled under Chapter 3.

23 CHAIRMAN BONACA: Okay, so you will be talking  
24 about that when you talk about Class I structures?

25 MR. BRAVERMAN: Right.

1 CHAIRMAN BONACA: I understand.

2 MR. COSTELLO: In the classic Mark I, the pressure  
3 boundary is --

4 CHAIRMAN BONACA: Is steel.

5 MR. COSTELLO: Is steel, right.

6 CHAIRMAN BONACA: I understand. Thank you.

7 MR. KANG: Okay. There were several licensing  
8 renewal issues associated with this chapter. And most of  
9 them are addressed in GALL, and most of them are in the  
10 process of being resolved or already has been identified.

11 For example, first, the 40 and 41, those are  
12 concrete issues. Those issues have been identified and  
13 covered in the GALL to 2A-1 for PWR and B, 2.2 and 3.2 for  
14 BWR, Mark II and III containment.

15 And then 42 and 107 this is settlement issues, and  
16 dewatering systems. We are addressing this one, so those,  
17 already we did, and transgranular stress corrosion cracking  
18 of containment bellows, this we'll be addressing under  
19 cracking due to stress corrosion cracking or cyclic loading.

20 And also IWE and IWL inaccessible area, that was  
21 the first bullet on that item. Okay, and then there is a 50  
22 and 84 has been deleted. So, also, let's see -- IWE and IWL  
23 operating experience, new -- all our aging management  
24 program addresses operating experience, so it should cover  
25 there.

1           And also 87, we have a containment temperature  
2 issues, and this is also addressed, so pretty much we  
3 covered on this license renewal issues.

4           Any questions?

5           MR. SHACK: This is also closer to the format that  
6 I assume is going to be adopted for the rest of GALL then,  
7 when you'll have a sort of generic reference to Section 11  
8 and the only thing that will appear will be the additions or  
9 changes?

10          MR. KANG: For plant-specific basis, right? Yes.

11          CHAIRMAN BONACA: Next, Chapter 3. Hai-Boh Wang  
12 is going to make the presentation.

13          [Pause.]

14          MR. SHACK: While we are waiting, what do people  
15 actually do with the inaccessible areas when they -- what  
16 are their options? When you have the corrosion or you have  
17 to inspect the inaccessible areas, what do they actually do?

18          MR. JENG: For instance, in the case of Oyster  
19 Creek the shell, the sand cushion areas they discover some  
20 water leaking through the sand cushion, pipes, and they did  
21 not see actual corrosion going on on the shell proper but  
22 because of this indication -- they went in to evaluate the  
23 shell, whether they lost the material by UT and several  
24 different kind of examinations to check the thickness.

25          They took an externalized area and checked the

1 thickness, where that had changed from the original  
2 thicknesses and the minimum thickness by design, so this was  
3 implemented, so there is something one can do to ensure that  
4 current licensing basis is fully still met.

5 CHAIRMAN BONACA: I have a question on Slide 28.  
6 We talked about cracks due to settlement and reduction in  
7 foundation strength due to erosion.

8 If you have erosion taking place on the basemat,  
9 that is the time dependent effect which was not really  
10 covered in a time limited analysis because it wasn't planned  
11 to be there. I mean it was just found to be there.

12 MR. JENG: This is unique -- in the case of, say,  
13 Seabrook plant there original design called for permeable  
14 porous concrete layer below that containment mat.

15 MR. SIEBER: That's right.

16 MR. JENG: The idea was to use that layer because  
17 of it being porous to get the groundwater to seep through as  
18 part of design configurations, and a couple decades later  
19 they found out that due to duration of this porous concrete  
20 there is more loss of the material than they expected and  
21 this is the type of situation we want to make sure we cover.

22 If you are having such a special design then we  
23 want the Applicant to address what situation is rate of  
24 degradation, what potential loss of material beyond your  
25 design basis.

1 We want them to address it on a specific plant  
2 basis.

3 CHAIRMAN BONACA: Yes. The question I am asking  
4 is regarding the addressing -- what criteria do we use?

5 I mean if you know that you are pulling out "x"  
6 pounds a year or hundreds of pounds a year of concrete,  
7 okay, that has been leached out or lost through erosion I  
8 guess, how do you develop criteria for what is acceptable I  
9 mean since it is an age-dependent effect that continues to  
10 take place?

11 So I would say a few pounds is okay and a hundred  
12 pounds is okay, but then what are the criteria there?

13 MR. JENG: Okay. In the context of the license  
14 review --

15 CHAIRMAN BONACA: Yes --

16 MR. JENG: -- what particular criteria we are  
17 going to use, that will be based on the engineering  
18 principles, adequate safety strength, loss, and they are  
19 mostly covered in the Part 50 SRP, basic coverage, but one  
20 has to go on a case-by-case basis.

21 I cannot answer you specifically what we should  
22 do --

23 CHAIRMAN BONACA: Okay.

24 MR. JENG: -- depending on the plant situation,  
25 the degree of erosion and what measures are being taken to

1 mitigate the situation and one has to make a judgment at  
2 that time to stop and make an adequate judgment.

3 CHAIRMAN BONACA: So it is not a time limited  
4 analysis. It is more like monitoring the erosion and --

5 MR. JENG: Yes, continue monitoring one case or  
6 some intensified inspection, checking to take a sample piece  
7 to check the strength's variability and relaxing. Such are  
8 the possible approaches but the specific disposition should  
9 be determined on the particular case situation.

10 MR. GRIMES: Dr. Bonaca, I would like to point out  
11 that one of the attributes of an Aging Management Program  
12 that we look for is the acceptance criteria to the extent  
13 that they can define particular acceptance criteria or  
14 inspection techniques but we put a heavy reliance on the  
15 corrective action process that evaluates specific findings  
16 to determine whether and what kind of corrective action is  
17 warranted to ensure function, so there's for a number of the  
18 system walkdowns for example there's a general inspection  
19 practice that says look for indications but then the  
20 acceptance criteria is dependent upon what kind of  
21 indication is found against an evaluation that the structure  
22 or component can continue to perform its intended function.

23 CHAIRMAN BONACA: So you would at some point,  
24 somewhere there should be some criteria on what you are  
25 looking for, so far as consequences of the erosion, and you

1 expect the licensee to submit those and to present them as  
2 part of the plan, the management plan?

3 MR. GRIMES: As part of the description of the  
4 program we would expect them to identify acceptance criteria  
5 to the extent it is practical.

6 For example, David mentioned that for the shell of  
7 a MARK I Taurus there is an evaluation of shell thickness  
8 and there is a minimum thickness associated with the ability  
9 of the containment to continue to be a pressure-retaining  
10 boundary.

11 CHAIRMAN BONACA: Okay, thank you. My name is  
12 Hai-Boh Wang with the License Renewal and Standardization  
13 Branch.

14 On my left is Jim Costello from the Office of  
15 Research, Richard Morante from Brookhaven Lab and David Jeng  
16 from Division of Engineering, NRR.

17 On my right is Thomas Cheng from the Division of  
18 Engineering, NRR and Jim Davis from NRR -- they will be able  
19 to answer any tough questions from the committee.

20 Now this group of structures covers all the  
21 structures in the scope of license renewal except the  
22 containment. That means the containment internal is part of  
23 it and all the other structures, steel and concrete and  
24 liner, plus component support from pipe support to reactor  
25 support -- it covers the various areas.

1           That means there's a lot of NEI comments.

2           Here I have a list of four but the five previous  
3 ones listed on page 28 also are applicable to this group of  
4 structures, plus some others we'll discuss tomorrow also  
5 apply to the group of structures.

6           We don't want to repeat our comments -- just some  
7 unique ones to bring up here.

8           The first one was application of the structural  
9 monitoring program. Now NEI back in '96 proposed a  
10 structural monitoring program in a document called NEI 96-03  
11 that tried to cover the structural monitoring program for  
12 both the maintenance rule and the license renewal, submitted  
13 it for Staff review.

14           The maintenance folks thinks the program is  
15 wonderful. They accept it, but license renewal considered  
16 the program less depth, less substance for what we need, so  
17 they made a lot of comments, sent it back and asked them to  
18 revise it.

19           They said they are going to revise it but they  
20 never did, so eventually they still want to push existing  
21 maintenance structures to be as part of our license renewal  
22 monitoring program. Now we do not accept that so we created  
23 in Chapter 11, S(6) as our version of the structural  
24 management program, which is evolved from the maintenance  
25 rule but a little bit more, because the maintenance rule

1 only goes to the system and structural level, so license  
2 renewal wants to go to the component level.

3 Now that is a major difference. There's other  
4 differences as well, so in our opinion if any Applicant can  
5 address their program, Aging Management Program, similar to  
6 our structure management program we will consider its  
7 acceptance.

8 However, if they differ from ours, they have their  
9 own specific management program different from ours, the  
10 Staff will take it for review to make sure it complies to  
11 our structural management program or equal to it.

12 CHAIRMAN BONACA: Could you give us an example of  
13 where you didn't find 96-03 sufficient for license renewal?

14 MR. WANG: First of all, it goes by structures and  
15 not components and theoretically if the structure is missing  
16 a wall the structure stands. The maintenance rule  
17 theoretically says okay -- for license renewal is not okay  
18 and plus the maintenance rule does not care about seismic  
19 201 --

20 CHAIRMAN BONACA: These are the main differences?

21 MR. WANG: There's others. I didn't bring the  
22 list. There is a long list.

23 CHAIRMAN BONACA: Sure.

24 MR. CHENG: This is Tom Cheng. I would like to  
25 add something to it.

1 I think the Staff accepts the existing program  
2 developed for the implementation of maintenance rule.  
3 However, they needed 10 elements documented in the GALL and  
4 also in the SRP, so they need to meet those 10 elements, so  
5 that is the difference also.

6 CHAIRMAN BONACA: So NEI 96-03 really was  
7 developed for the maintenance rule?

8 MR. WANG: Eventually. They never submitted it,  
9 so this wasn't -- the Staff never was endorsing that  
10 document per se.

11 CHAIRMAN BONACA: Okay.

12 DR. KUO: I believe I can add to it.

13 The maintenance rule finally they had for  
14 implementation of the maintenance rule they had 93-01,  
15 Revision 2. That is the NEI guideline that they are going  
16 with, and another point I want to clarify is that, yes, the  
17 licensee can have a program to meet the maintenance rule and  
18 at the same time meet the license renewal rule, as long as  
19 they can meet the 10 elements that we specified in the GALL  
20 or SRP.

21 It doesn't mean that we will not accept the  
22 programs for the maintenance rule at all. As long as they  
23 can demonstrate that they meet the 10 elements in the GALL,  
24 in the SRP criteria we will accept that program.

25 In fact, we have done that in the review of Oconee

1 application.

2 CHAIRMAN BONACA: Okay, I understand now. Thank  
3 you.

4 MR. WANG: The next bullet is shrinkage and  
5 aggressive environment of masonry walls.

6 Formation of walls -- there's a lot of  
7 safety-related equipment on support on masonry wall or the  
8 masonry wall could be a missile protection device so it  
9 needs to be functioning and we want the Applicant or  
10 licensee to have a program to manage their aging.

11 NEI questions if they already comply to the NRC  
12 Bulletin 80-11, which is Masonry Wall strengthening program,  
13 back in 1980 as it should be adequate, and the Staff  
14 proposed Chapter 11, S(5) the masonry wall program, which  
15 more or less complied to 80-11.

16 If the licensee can follow the procedure of that  
17 bulletin, our program of the 10 elements, the program should  
18 be considered acceptable.

19 MR. MORANTE: On this particular program I would  
20 like to add that in addition to 80-11, the bulletin, there  
21 is an Information Notice 87-67, which reported the results  
22 of field inspections of masonry walls after the  
23 implementation of 80-11 and they did find some problems with  
24 maintaining the valuation basis that was established in  
25 80-11 and the program that we have defined in Chapter 11,

1 S(5) here is based very heavily on the findings of that  
2 reported in that Information Notice.

3 Recommendations were made for periodic monitoring  
4 for new cracks in the walls and also administrative controls  
5 to ensure that the valuation basis is not invalidated by  
6 adding new equipment to the plant that could potentially be  
7 hit by a wall that prior to adding it the wall was outside  
8 the scope or reclassifying systems from nonsafety to safety  
9 as a result of some future review.

10 What we have tried to do is incorporate within  
11 this Aging Management Program S(5) is the definition of the  
12 scope from both 80-11 and any subsequent walls identified  
13 under A46 program and a management program which reflects  
14 the insights that were identified in Information Notice  
15 87-67.

16 CHAIRMAN BONACA: Okay.

17 MR. WANG: The third bullet, the stress corrosion  
18 cracking of fuel pool stainless steel liner. It mainly is  
19 the spent fuel pool.

20 NEI says each plant has a specific program to  
21 manage that cracking, mainly with the leak monitoring  
22 program. If the leakage exceeds a certain amount they will  
23 do something about it and it will be on a case by case basis  
24 when the Applicant submits to the Staff review and seeks the  
25 adequacy against the 10 elements.

1 CHAIRMAN BONACA: What was the difference between  
2 NEI and the Staff again?

3 MR. WANG: We don't have any Staff. We just say  
4 the Applicant has to submit a program for us to review  
5 against the 10 elements.

6 CHAIRMAN BONACA: Okay. This was an NEI comment.

7 MR. WANG: NEI comment says the Applicant/plant  
8 already has their program -- we don't have to bring nothing  
9 up. Okay? There is no new Aging Management Program  
10 necessary.

11 CHAIRMAN BONACA: And for example if you look at  
12 the 10 elements you would expect to see for the program the  
13 acceptance criteria, corrective action --

14 MR. WANG: Right. GALL -- detection of aging and  
15 so forth, so forth.

16 The last one was the loss of material --

17 CHAIRMAN BONACA: Let me mention just for  
18 curiosity here, if you had a leak -- that's what they are  
19 going to find. They are going to have leaking from stress  
20 corrosion cracking so you would expect to see what the  
21 recovery actions will be also, how you recover the pool.

22 MR. WANG: Jim?

23 MR. MORANTE: Would you repeat that?

24 CHAIRMAN BONACA: Yes. I am saying that as part  
25 of these criteria that you would expect to put in the

1 program you would want to know how the licensee -- not only  
2 he would monitor and trend leakage, the detection of the  
3 aging effects, and the acceptance criteria is related to the  
4 corrective action, but also the recovery action I imagine on  
5 how do you recover from such an issue.

6 I mean you have a liner with a side of spent fuel  
7 and it's leaking so --

8 MR. MORANTE: Well, any Aging Management Program  
9 that would be defined and adequately met the 10 elements,  
10 one of the attributes, one of the attributes is any  
11 corrective actions that they would have to take to resolve  
12 it.

13 I would like to point out one thing to Hai-Boh,  
14 that the current version of the GALL tables in Group 5 of  
15 3(a), on this particular item there had been significant  
16 discussion back and forth between industry and the Staff.

17 Agreements from 1557, the Staff basically accepted  
18 existing leak chase monitoring systems as an adequate  
19 methodology for managing aging of the liner at that time.

20 If we have had a change in position it's a very  
21 recent one.

22 Just to clarify, if you were to look in the GALL  
23 Chapter 3(a) right now the indication is further evaluation  
24 on this particular item.

25 Stress corrosion cracking of liners, stainless

1 steel liners, and the identification is that the basis for  
2 it is that the current systems that are used by the plants  
3 are considered effective programs to monitor this.

4 MR. WANG: So on page 3(a), 5-9.

5 MR. MORANTE: Yes.

6 MR. WANG: On -8 and 9.

7 MR. MORANTE: I know we have gone back and forth a  
8 few times on this.

9 [Pause.]

10 CHAIRMAN BONACA: Okay. I mean I am trying to  
11 understand the extent of the understanding of the Staff -- I  
12 think it would be challenging to have to fix a hole in the  
13 liner just because you have got fuel inside that, spent fuel  
14 and water, so you would have to have some corrective  
15 actions? I don't know.

16 MR. GRIMES: Dr. Bonaca, I think this is an  
17 example of an area where we would not expect the program to  
18 specifically define corrective actions for all of the  
19 possible ways that you might develop cracks in the liner. I  
20 would expect that the quality assurance program would  
21 evaluate the specific results and it is conceivable that  
22 there are a variety of different ways that they could take  
23 corrective action that would depend on the specific  
24 findings.

25 For example, I would not expect that this program

1 description would include things like how to try and protect  
2 the fuel and still get at the liner to repair it.

3           There are some real challenging underwater welding  
4 techniques that probably would have to be evaluated on a  
5 case-specific basis before you start talking about trying to  
6 repair a crack in the liner.

7           In some cases they may identify ways to live with  
8 cracks in the liner and still be able to satisfy their  
9 design basis.

10           CHAIRMAN BONACA: Yes. I asked the question  
11 because it seems to me that in many of these issues of  
12 defense-in-depth they are looking at ways to recover what  
13 margin you have and that would be an issue that goes to  
14 margin.

15           I would not consider the liner in the pool the  
16 same level of importance as a liner in a tank that doesn't  
17 do anything else but keeps the water in, and so it would be  
18 a different significance there and I was wondering if in  
19 fact there will be any criteria.

20           You are telling me that there aren't.

21           MR. GRIMES: The criteria would basically go back  
22 to the description of the intended function and ability to  
23 continue to maintain seismic loading conditions and other  
24 design loading conditions. An evaluation of a finding that  
25 there is a crack in the liner would then be cranked into an

1 evaluation of the intended function under all the loading  
2 conditions and a corrective action would spring from that  
3 evaluation.

4 CHAIRMAN BONACA: Sure. Okay, thank you.

5 MR. WANG: Bullet Number 4 is the loss of material  
6 of concrete elements for water controlled structures, mainly  
7 we are talking about the intake channel or the intake  
8 structure or a water containing dam, concrete dam.

9 If you walk down the plant you will see the  
10 channel, the intake channel of the concrete also cracks.  
11 Sometimes they have chunks of concrete missing and something  
12 should be done. We ask a question.

13 NEI disagrees. If the Applicant follows NUREG  
14 Guide 1.1247 the problem should be resolved if the structure  
15 is under NRC jurisdiction. If the structure is under  
16 Federal Energy Regulation Commission, FERC's jurisdiction,  
17 FERC has their own regulation, their own program to take  
18 care of it.

19 The Staff accepts that and puts it into a table,  
20 3(a)(6).

21 MR. SIEBER: 3(a)(6)(9), right? I think in Tab 11  
22 it also allows the Army Corps of Engineers' process is also  
23 acceptable.

24 MR. WANG: Yes, for the dams.

25 CHAIRMAN BONACA: Okay. Any other questions from

1 the members regarding structures and components, support?

2 MR. WANG: Since the components fall under ASME  
3 Section 11, IWF jurisdiction.

4 It is under the jurisdiction of ASME Section 11,  
5 IWF, all the inspection and maintenance. Correct me if I am  
6 wrong --

7 MR. MORANTE: Well, Chapter 3(b) probably comes  
8 closest to covering things you would call commodities.

9 It is intended to cover support for many different  
10 systems in the plant.

11 The first part of Chapter 3(b) covers supports  
12 that would be within the scope of ASME Section 11 IWF. That  
13 would be Class 1, 2, 3 and MC piping and component supports.

14 That is all incorporated in B(1); B(2), sections  
15 B(2) through B(5), cover other types of supports within the  
16 plant that would be outside the scope of ASME and cover a  
17 wide range of different components that are supported in the  
18 plant.

19 We attempted to identify those aging effects and  
20 aging mechanisms that we believe to be appropriate for these  
21 different classes of supports and to identify how they might  
22 be managed.

23 For the most part, once you get away from supports  
24 on ASME class systems, the only existing program that can be  
25 credited in most cases other than a boric acid corrosion

1 program for things inside containment basically goes back to  
2 the structures monitoring program which we anticipate for  
3 most plants will be based on their maintenance rule program,  
4 and so the writeup in Chapter 11, S(6) is expected to apply  
5 to a large number of structural items within the plant that  
6 are not covered, say, by ASME code.

7 Does that answer your question?

8 CHAIRMAN BONACA: Yes.

9 MR. WANG: The next slides will cover the license  
10 renewal issues.

11 There are eight of them, but there is a ninth  
12 one -- it's 98-041 -- aggregate. I don't remember too many  
13 cases in the history of the American nuclear industry where  
14 too many reactions with the aggregate happened. Maybe once  
15 or twice, the maximum. That can be taken care of by a  
16 structural management program as well.

17 039 is a one-time or baseline inspection of  
18 structures. NEI was against that one, thinking the  
19 maintenance rule has inspection program that should cover  
20 license renewal required. We agree. Our intention was  
21 since the scope of license renewal and maintenance rule does  
22 not coincide 100 percent, there are certain areas license  
23 renewal does not cover the maintenance rule or maintenance  
24 rule does not cover license renewals.

25 So in license renewal the licensee or the

1 Applicant should develop a site specific program or whatever  
2 to give the Staff some assurance that is the component or  
3 structures or systems can perform their intended function  
4 through a baseline inspection, one time inspection.

5 CHAIRMAN BONACA: When would the inspection be  
6 performed?

7 MR. WANG: Any time before the 40 year is up.

8 CHAIRMAN BONACA: This is one that you would want  
9 to perform shortly before you enter the 40th year?

10 MR. WANG: Yes -- or if -- our contention is if  
11 they do it at, say, 15 years or 20 years, since the plant's  
12 been there for 20 years, there is no degradation, no  
13 deterioration of the structure, the component, it would be  
14 hard to assume under 20 years the component would degrade  
15 such that it could not perform its intended function.

16 If, for instance, after 20 years they found quite  
17 a few degradations, we'd assume at 40 years we would need  
18 them to do it one more time, another baseline inspection.

19 CHAIRMAN BONACA: So this will be a little bit  
20 different from the other one-time inspections that you do.

21 You do the baseline that you would do on all  
22 structures to verify that --

23 MR. WANG: This one we merged with the structural  
24 monitoring programs, because from time to time you have to  
25 monitor the structure and if you find anything degraded you

1 are going to mend it.

2 CHAIRMAN BONACA: And so this is going to be -- I  
3 mean you said that NEI was violently opposed?

4 MR. WANG: Yes.

5 CHAIRMAN BONACA: And what is it now?

6 MR. WANG: Now it's the structural monitoring  
7 program, part of the structural monitoring program.

8 CHAIRMAN BONACA: But it is going to be done?

9 MR. WANG: Right.

10 Freeze-thaw damage of concrete has been discussed  
11 previously and different settlement in containment and  
12 things we are talking about, other structures other than  
13 containment, this seems odd but we do, containment internal  
14 structure is part of this structural group so that is  
15 applied to this structure.

16 Reinforcement corrosion -- that means corrosion in  
17 embedded steel or corrosion of reinforcement is concrete.  
18 That one's been -- the structural monitoring program will  
19 take care of that too.

20 CHAIRMAN BONACA: For reinforcement corrosion, do  
21 you, are you looking for indications? Are you looking for  
22 the environment or are you looking for inspections?

23 MR. MORANTE: All of the above.

24 In the long history of discussion between the  
25 Staff and industry, which culminated in NUREG-1557, where

1 there are many agreements documented, these aging effects  
2 and aging mechanisms were identified and also identified  
3 were bases, technical bases for considering these to be  
4 non-significant, and in some cases plants have and can  
5 justify the non-significance of certain types of degradation  
6 based on meeting these criteria, which may have to do  
7 with -- which would typically involve the quality of  
8 construction and in many cases especially for inaccessible  
9 areas would involve the quality of the groundwater.

10 The big concern is for things that might be  
11 exposed to the groundwater or attack of the concrete by  
12 aggressive groundwater that then might cause corrosion of  
13 the reinforcement.

14 MR. DAVIS: What happens is when the concrete  
15 drops below pH of 11.5.

16 Then the rebar starts corroding or if the chloride  
17 is at a very high level, say like 500 ppm.

18 It's very difficult to measure that so what NEI  
19 has proposed is that if the groundwater drops below a pH of  
20 5.5 then that will be an indication that the concrete will  
21 drop below 11.5 and they want to use that as their  
22 monitoring technique.

23 CHAIRMAN BONACA: So there are very specific  
24 criteria for the monitoring -- water and pH.

25 DR. UHRIG: There's been a lot of experience with

1 corrosion, rebar, in bridges.

2 Has any of that technology carried over in terms  
3 of I thought there were some electronic techniques of  
4 looking at it.

5 MR. DAVIS: There are very definite ones and they  
6 use cathodic protection on bridges, but that has to be set  
7 up ahead of time and you can't backfit it.

8 DR. UHRIG: You can't retrofit it, no, but there's  
9 cathodic protection on many plants.

10 MR. DAVIS: Yes, but not on the rebar.

11 DR. UHRIG: Okay, not on the rebar.

12 MR. DAVIS: The problem that you have is if all  
13 the rebar is not grounded you are going to start getting  
14 straight current corrosion which is worse than what you are  
15 trying to fight in the first place.

16 DR. UHRIG: Okay, thank you.

17 CHAIRMAN BONACA: But you feel that there is  
18 sufficient industrial experience to deal with, to provide  
19 for a life of 60 years?

20 MR. DAVIS: Yes, there's been some studies done  
21 and some very good correlations between the groundwater pH  
22 and the condition of the rebar.

23 CHAIRMAN BONACA: I mean there should be a lot of  
24 industrial experience for structures and how they have  
25 survived aging.

1 MR. WANG: Any other questions?

2 MR. GRIMES: I would like to add I think we sort  
3 of blew by the inspection provisions. General plant  
4 walkdowns will see evidence of staining if you have  
5 corrosion occurring inside concrete and that is clearly an  
6 indication that something needs to be fixed and so we would  
7 rely on that as well as part of general structural  
8 inspection activity.

9 MR. WANG: Other questions?

10 [No response.]

11 MR. WANG: License renewal issue number 091,  
12 functions for complex structures, was merged into 057,  
13 crediting maintenance rule program according to the memo, to  
14 the ACRS memo here that says 091 and 057 are merged into  
15 one.

16 We do give credit to the maintenance rule where  
17 the maintenance rule can apply to license renewal 100  
18 percent.

19 The only place -- when the maintenance rule does  
20 not cover we need the specific Aging Management Program from  
21 the Applicant to take care of it.

22 CHAIRMAN BONACA: Okay.

23 MR. WANG: The last one, 98-100, aging review  
24 related to dams. That one we think either if the dam is  
25 under NRC jurisdiction, Reg Guide 1.127 should take care of

1 it.

2 Otherwise the FERC regulations or in the Corps of  
3 Engineers rules will take care of that -- the dams that  
4 belong to the Corps of Engineers, that is.

5 CHAIRMAN BONACA: Okay. This would be like the  
6 dam that was at Oconee?

7 MR. WANG: Yes.

8 CHAIRMAN BONACA: Okay. I am trying to  
9 understand.

10 MR. WANG: I think it was somewhere -- I forget  
11 which dam, the dam was downstream that belonged to the Corps  
12 of Engineers and the other one belonged to the FERC.

13 MR. GRIMES: But that dam wasn't part of the  
14 licensing basis. We recognized when we developed the  
15 position for Oconee their emergency power supply dam was  
16 within FERC jurisdiction and when we consulted with the NRC  
17 dam safety officer -- I really like that title --

18 [Laughter.]

19 MR. GRIMES: Maybe before I retire I can be the  
20 NRC dam safety officer -- we recognized that the FERC  
21 program and the Corps of Engineers are comparable in terms  
22 of the program attributes so we acknowledged the Corps of  
23 Engineers as an acceptable Aging Management Program at the  
24 same time.

25 CHAIRMAN BONACA: Thank you.

1 MR. WANG: That completes my presentation.

2 Are there any other questions from the committee?

3 CHAIRMAN BONACA: Any questions from members on  
4 structures?

5 MR. SIEBER: I do have a question and I may have  
6 missed it because there was a lot of information in the GALL  
7 report but there are some plants that have cooling pond  
8 impoundments that are earthen. I don't recall seeing that  
9 addressed.

10 MR. MORANTE: Directly in the GALL tables?

11 MR. SIEBER: Right.

12 MR. MORANTE: You're right.

13 MR. SIEBER: Should it be? That is your ultimate  
14 heat sink -- with an earthen dam that should be addressed by  
15 some kind of Aging Management Program.

16 MR. MORANTE: The way it is currently handled is  
17 that for that type of -- it is not in the GALL tables per  
18 se.

19 MR. SIEBER: Okay.

20 MR. MORANTE: But if you look at the Chapter 11,  
21 S(7), those types of water control structures there is a  
22 footnote at the end which identifies that any water control  
23 structure such as a dam or an embankment that is under the  
24 jurisdiction of FERC or Corps of Engineers is automatically  
25 accepted but if it is under jurisdiction of the plant that

1 we expect a program comparable to the FERC or Corps of  
2 Engineer program, but you won't find it specifically in the  
3 tables.

4 MR. SIEBER: Thank you.

5 CHAIRMAN BONACA: I have a general question here,  
6 more about the thrust of all these presentations.

7 All the presentations address each one of the SRP  
8 sections and then the GALL section, focusing on the NEI  
9 comments or the industry comments and how they were dealt  
10 with.

11 To some degree that implies that the only  
12 difference between the previous SRP and GALL report that we  
13 had and the current we are reviewing now are the  
14 interactions between the licensees and the NRC, but I  
15 thought that we also had been folding into the SRP and GALL  
16 the experience from the two previous reviews.

17 I think as we go through piece by piece I would  
18 like to understand how that experience has been used.

19 MR. WANG: I do want to address one thing about  
20 the general inspection, which we do have a couple  
21 experiences, at Calvert Cliffs and Oconee.

22 CHAIRMAN BONACA: The first question I have,  
23 again, is is the main difference between the previous SRP  
24 and GALL report and the current one that we are reviewing  
25 the NEI interactions? Is that the main difference?

1 MR. GRIMES: The main difference is the  
2 interaction with NEI has now taken place with experience  
3 from Calvert Cliffs and Oconee to temper the dialogue.

4 CHAIRMAN BONACA: I'm sorry, would you repeat  
5 that?

6 MR. GRIMES: The main thrust of the changes to the  
7 SRP and the extension of generic aging lessons learned into  
8 Aging Management Programs is that the dialogue that we have  
9 had with NEI has been tempered by the experience from  
10 Calvert Cliffs and Oconee.

11 Where before we had argued about these 104 generic  
12 renewal issues on a theoretical basis. We have now been  
13 able to go back and hold a dialogue with the industry about  
14 improvements to the Standard Review Plan and the extension  
15 of the generic aging lessons learned into a description of  
16 program attributes that is no longer theoretical but now has  
17 practical experience.

18 I think throughout the presentations that you have  
19 heard today, they may have gone unnoticed, but there were a  
20 number of occasions where we said "like we found at Oconee"  
21 or the program attributes as they were presented by Calvert  
22 Cliffs.

23 I think the backhanded answer that I gave you was  
24 that, yes, the major changes here are the dialogue with the  
25 industry, but the Calvert Cliffs and Oconee experience has

1 contributed substantially to a more civil and productive  
2 dialogue.

3 MR. LEE: I just want to add the way NEI commented  
4 on GALL, what they did was they formed four or five teams by  
5 discipline. I was told at one point there was like 50  
6 people commenting on GALL and those people are people from  
7 PG&E, Oconee, Hatch -- those are the license renewal plants,  
8 so when they commented they already looked at the experience  
9 from their plant applications and then from our side we have  
10 the NRR Staff that actually did a review too.

11 CHAIRMAN BONACA: The reason why I am asking that  
12 question is the whole presentation is articulated around  
13 issue, NEI comments, disposition.

14 The implication is that that is the major driver  
15 of the changes we have seen from SRP Rev.-something to this  
16 SRP revision, okay? I think there is more than that.

17 You are telling me that that is folded in. I am  
18 only trying to understand if we as a committee are missing  
19 some elements. There may be some issue, some major change  
20 in the SRP and I have not gone by the two versions item by  
21 item to check what major version there is.

22 There could be some major change that is not being  
23 monitored by the status of the NEI comments, so that is my  
24 point.

25 MR. GRIMES: And I would say that when we get

1 toward -- later in the presentation, we will talk about the  
2 extent to which we also had constructive input from the  
3 Union of Concerned Scientists, which provided us with a  
4 broader view about the completeness of the guidance, the  
5 completeness of 20 years' worth of assembling nuclear plant  
6 aging research results, and I think we have got confidence  
7 that GALL was a good tool before and now it is a better tool

8           We have used the industry comments in order to  
9 focus your attention on the particular areas where there  
10 were controversies in the guidance and whether or not we  
11 were going far enough or too far, and so we intentionally  
12 used the industry comments as a way of focusing on guidance  
13 features, but we would hope that when you apply your  
14 experience to looking through GALL that you will find that  
15 we have done a very comprehensive job of identifying program  
16 attributes, identifying applicable aging effects and  
17 providing constructive insights for the Applicants on how  
18 they are supposed to address areas where we think programs  
19 may need to be augmented to address aging effects.

20           CHAIRMAN BONACA: I appreciate that.

21           You understand that your presentations are  
22 supposed to help our reviews.

23           MR. LEE: I just want to add one more thing. On  
24 some of the slides you see we added this item called the  
25 item of interest, okay? Those might not come from NEI so if

1 find certain things we should do, if they are significant we  
2 put them on the slide.

3 CHAIRMAN BONACA: Okay, thank you.

4 Noel here has got a good suggestion. What don't  
5 we take a break now before we start these last two sections  
6 and we are running ahead of time anyway, so let's break  
7 until five after, and then we will resume and start the  
8 presentations again.

9 [Recess.]

10 CHAIRMAN BONACA: Okay, let's resume the meeting.

11 Before we start with the next presentation, I  
12 spoke with Dr. Kuo and we talked about my question before.

13 The intent of my question before was to make sure  
14 that -- you know, we have reviewed the SRP that we received  
15 in August and the GALL report and so on.

16 There are substantial differences, particularly in  
17 the GALL report, between the current version and the one we  
18 had before.

19 Every member has taken some portions and reviewed  
20 them. On the other hand, if there are major differences  
21 there, it would be interesting to us to understand where  
22 those differences came from. It may be purely editorial  
23 differences. It may be a reorganization of the GALL report  
24 and I believe that that is where it comes from -- just a  
25 belief supported by a few observations.

1           Then it could be that there are major elements  
2 removed or changes or whatever and clearly for us the  
3 presentation that the Staff provides is a help. They are  
4 helping our review.

5           So Dr. Kuo has agreed to tell us a little bit  
6 about that and give us some understanding so that we can  
7 again be helped in our review.

8           DR. KUO: Let me try. I think there are three  
9 major differences between this August version and the  
10 December 6 version that you have already seen.

11           The first one is format. In terms of format the  
12 GALL report had a major change in that in the technical  
13 evaluation column we tried to simplify it as much as we can  
14 and then we created two new sections, Section 10 and Section  
15 11. These two sections are the collection of all the common  
16 programs, so we tried to not have specific evaluation in the  
17 main tables, and all the big programs are going into Chapter  
18 10 and Chapter 11.

19           CHAIRMAN BONACA: Good.

20           DR. KUO: So basically your review will be most  
21 beneficial to concentrate on Chapter 10 and Chapter 11.

22           The main table is simply a catch-all on the aging  
23 effects and then when it comes to the technical evaluation  
24 column it says refer to either Chapter 10 or Chapter 11.

25           CHAIRMAN BONACA: I see.

1 DR. KUO: Okay, and then --

2 CHAIRMAN BONACA: That is mostly a format.

3 DR. KUO: That's really the area where you have  
4 the major programs that manage aging.

5 The second area that is changed is that we have  
6 incorporated the comments from NEI. You heard about that.

7 We also have incorporated the comments from UCS.  
8 We have reviewed five reports submitted to us from UCS and  
9 we have incorporated some of it and we are going to actually  
10 in this update put in a few more.

11 We also have incorporated some lessons learned  
12 from the review of the two applications, Calvert Cliffs and  
13 Oconee.

14 For instance, in Chapter 10 the three programs it  
15 lists there, EQ, fatigue, and pre-stress -- you know, it all  
16 reflects the practices or the acceptance that we had used in  
17 these two application reviews.

18 Then there is Chapter 11. I already mentioned it,  
19 but Chapter 11 basically is the collection of all the common  
20 aging programs so just to avoid repetition -- so these are  
21 the three major areas that I see the differences between the  
22 two versions, the December 6th and the August 31st.

23 CHAIRMAN BONACA: Okay, thank you. Any questions?

24 MR. LIU: The other major differences, at December  
25 6 you do not have Volume 1 of GALL. Volume 1 was created as

1 a bridge also between GALL and the SRP.

2 CHAIRMAN BONACA: Yes. Thank you.

3 DR. KUO: From Volume 1 you can actually go from  
4 GALL to SRP.

5 CHAIRMAN BONACA: That is the guide. Any other  
6 questions from the members regarding the differences  
7 between --

8 DR. SEALE: There won't be a revision of Volume 1?

9 DR. KUO: Not that I see right now.

10 DR. SEALE: So that is still valid?

11 DR. KUO: Still valid, correct.

12 CHAIRMAN BONACA: Okay, thank you. Appreciate it.

13 DR. KUO: You're welcome.

14 CHAIRMAN BONACA: And with that, let's proceed  
15 with the presentation on Reactor Vessel Internals and RCS.

16 MR. DOZIER: Good afternoon. This presentation  
17 is, as you said, on the reactor vessel, the reactor vessel  
18 internals, and the reactor coolant system.

19 Before I get started, one of the things that you  
20 asked about was the experience and the lessons learned from  
21 other things and how that was really carried forth in the  
22 GALL report, so I am very pleased to introduce this team.

23 On my right is Omesh Chopra. Omesh Chopra is from  
24 Argonne National Labs. He's been involved from the original  
25 NPARSE studies. He was involved with that, the GALL 1 that

1 was done around 1995 time period and he continues on with  
2 Chapter 4 as well as several chapters within the GALL  
3 report, so we have his experience.

4 Gene Carpenter is our BWR VIP expert and he will  
5 be here to answer your questions earlier for the BWR VIP  
6 programs but along side with reviewing Chapter 4 he also  
7 reviewed the BWR VIPS and he is involved with the Hatch  
8 application, so he has that three-pronged thing.

9 Mike McNeil from the Office of Research -- he's  
10 been involved with license renewal about a year and a half  
11 and has been involved with several of the generic safety  
12 issues.

13 On my left is Barry Elliot. He was primarily  
14 involved with the PWR sections of GALL. He's been involved  
15 with all of the applications that have been sent in so far.

16 My name is Jerry Dozier. I am from the License  
17 Renewal and Standardization Branch. Prior to coming here  
18 five months ago I was involved in the original drafts of the  
19 Calvert Cliff applications and the technical review of the  
20 Arkansas Nuclear 1 application.

21 With that, I'll get started with Chapter 4.

22 The NEI comments for of course the reactor vessel  
23 was pretty big. It was approximately 70 pages so a lot of  
24 the comments that you hear, they are in this chapter.

25 A lot of those comments were very good and

1 especially in articulating the program attributes that the  
2 plant could go and implement. They were very good comments  
3 in helping to do that and NEI provided very constructive  
4 comments in making Chapter 4 better.

5 On the other hand though, there were a lot of  
6 things we agreed on. The items that are listed in front of  
7 you are those issues that our opinions diverged.

8 The first one was neutron irradiation  
9 embrittlement and basically on it there were two different  
10 things that we disagreed on.

11 One was the threshold value. The NRC was using  
12 the 10E to the 21 neutrons per centimeter squared. NEI was  
13 proposing using 10E to the 17th. We got the 10E to the 21  
14 basically from 10 CFR 50, Appendix H -- I'm sorry.

15 [Laughter.]

16 MR. DOZIER: We had the lower threshold value and  
17 ours came from 10 CFR 50, Appendix H is where the 10E to the  
18 17th came from.

19 They wanted to raise that threshold to 10E to the  
20 21st.

21 Also in the region of interest we were concerned  
22 with anything that reached the 10E to the 17th value whereas  
23 in their case they wanted to use the definition that was in  
24 10 CFR 50.61, which primarily dealt with the beltline region  
25 or basically those components within the area around the

1 core. That is an area of disagreement.

2 MR. SHACK: Their position to me doesn't seem  
3 unreasonable. If I made it 10 to the 17th for ferritic  
4 materials and 10 to the 21 is a little generous but I could  
5 make it 10 to the 20 for austenitics.

6 MR. ELLIOT: This is Barry Elliot.

7 This really has to do with internals. That is  
8 this issue here, this first one and there are two parts of  
9 the issue that you have to remember -- from discussions of  
10 Calvert Cliffs and Oconee I am sure you will remember that.

11 There are two separate issues. One is the cast  
12 stainless steel issue and the other is the raw stainless  
13 steel issue.

14 In the case of cast stainless steel there is a  
15 synergistic effect of neutron irradiation embrittlement and  
16 thermal embrittlement and so we were very, very reluctant  
17 there to drop back, because we know very little about the  
18 synergistic effect.

19 MR. SHACK: But there is a ferritic element there  
20 too and so I mean --

21 MR. ELLIOT: Right, exactly.

22 MR. SHACK: -- so it is ferrite.

23 MR. ELLIOT: And for the raw stainless steel there  
24 just isn't enough data yet to drop back from 10 to the 21st.

25 We probably could drop back but that is the whole

1 point of the internals research program, to find out how far  
2 back we can drop both for the raw issue and for the cast  
3 stainless steel issue.

4 MR. DOZIER: Another part of that that is driving  
5 NEI is Babcock & Wilcox did a study and found that their  
6 inlet and outlet nozzles did reach greater than the 10E to  
7 the 17th in 48 effective full power years, so I think in the  
8 back of their mind that is probably one of the strong  
9 drivers.

10 MR. SHACK: I certainly have no problem with 10E  
11 17 for any ferritic material. I think that is absolutely  
12 without question and inlet and outlet nozzles which are part  
13 of the vessel.

14 MR. ELLIOT: The criteria is 10 to the 17th and  
15 any component that reaches 10 to the 17th would have to be  
16 considered for neutron irradiation embrittlement and whether  
17 or not it is limiting for the vessel. That is within the  
18 context of the current regulations.

19 DR. KRESS: Fluence is the product of the flux and  
20 the time. Flux is about the same. Does this represent  
21 10,000 years difference?

22 DR. SEALE: Yes.

23 MR. SHACK: Well --

24 [Laughter.]

25 DR. KRESS: I mean that is a big difference, man.

1 DR. SEALE: Of closure.

2 MR. SHACK: It's more a region kind of difference.

3 MR. ELLIOT: Yes, it's a region of high you are  
4 above the core and how far you are from the core.

5 The internals, some of them, are right there, and  
6 they get tremendous flux compared to the vessel.

7 DR. KRESS: Yes, but for that particular region  
8 that has the high flux it is a 10,000 year difference.

9 MR. ELLIOT: That is why I said this issue is not  
10 really a vessel issue.

11 This is really an internals issue because there is  
12 a tremendous difference in flux between the vessel and the  
13 internals.

14 DR. KRESS: Yeah, I am sure of that.

15 DR. SHACK: You are not going from 10 to the 17th  
16 to 10 to the 21 in time, you are doing that all in --

17 MR. ELLIOT: You are doing it in flux here.

18 MR. SIEBER: All in flux.

19 CHAIRMAN BONACA: So you are saying this is only  
20 internals.

21 MR. ELLIOT: Yeah, the first one here is an  
22 internals issue. That is why I wanted to make sure.

23 CHAIRMAN BONACA: So NEI never made --

24 MR. ELLIOT: It is not a vessel issue.

25 CHAIRMAN BONACA: Okay.

1 MR. ELLIOT: There is no question that 10 to the  
2 17th is for vessels. The only issue here is on the first  
3 one, is the internals, which get a much higher flux than the  
4 vessel, therefore, reach higher fluences much sooner.

5 CHAIRMAN BONACA: Yeah.

6 MR. ELLIOT: And so this is the issue here.

7 CHAIRMAN BONACA: But you quoted an issue with the  
8 B&W nozzles, those are not internals.

9 MR. ELLIOT: They would have to address it as part  
10 of the vessel embrittlement program.

11 CHAIRMAN BONACA: Okay. That's right. So it  
12 seems like it is coming also in the way of the vessel  
13 potentially.

14 MR. DOZIER: Right. And that was one of the  
15 issues, too, is that, okay, yeah, that was -- that does have  
16 that fluence level, but, (1), it is not in the beltline  
17 region, and (2) actually that material is not the most  
18 susceptible to neutron irradiation embrittlement.

19 CHAIRMAN BONACA: Is this issue still open?

20 MR. DOZIER: Yes.

21 CHAIRMAN BONACA: So this is one of the few open  
22 issues.

23 MR. DOZIER: Yes, all of these issues are issues  
24 of disagreement. This one in particular is open.

25 MR. ELLIOT: I want to just make something clear,

1 make sure you understand, the vessel, any vessel material  
2 that exceeds 10 to the 17th is required to be evaluated.  
3 And as Jerry said, that is not an open issue. The open  
4 issue is the internals issue.

5 CHAIRMAN BONACA: Yeah.

6 MR. CARPENTER: This is Gene Carpenter. Just as a  
7 point of information, we are already seeing E to the 21  
8 levels in some of the internals, specifically the core  
9 shrouds of BWRs.

10 CHAIRMAN BONACA: So, you are relaxing some of  
11 those?

12 DR. SHACK: No, no. 10 to the 21, everything is  
13 suspect, you know. It is just at 10 to the 17th, which  
14 again, you know, in the beltline of those internals, it is  
15 really a question of how many components are affected. If  
16 you looked at internals that have reached 10 to the 17th,  
17 that goes up and down a long way, whereas 10 to the 21 --

18 MR. ELLIOT: I mean that is just, 10 to the 21 is  
19 the beltline region for the internals, they all get that in  
20 the first 40 years. The question is how high up do you have  
21 to go before you reach 10 to the 17th. There are components  
22 that can go pretty high up and still get 10 to the 17th in  
23 the internals.

24 DR. SEALE: 10 to the 21 is one neutron per atom,  
25 right? I mean that gives you an idea.

1 MR. DOZIER: Another area of divergence was in the  
2 area of crediting two different programs. One of the things  
3 that NEI really wanted us to do was to give the minimum that  
4 is required to perform the aging management, and we agreed  
5 with that. However, a lot of times two programs is actually  
6 necessary.

7 For example, in chemistry control, which they  
8 would want to just say, if they have chemistry on a  
9 particular component, they just want to say chemistry  
10 control. However, we have the problem of detection. So we  
11 feel like that chemistry control, as well as ISI, is a  
12 duplicable aging management program.

13 Another example would be boric acid corrosion, and  
14 boric acid corrosion, it would just be the walkdown looking  
15 for the crystals. However, if you credit ISI, you have the  
16 pressure test, and, also, if it -- as well as the visual  
17 inspection. So if it is pumped up, even if it is behind  
18 something like insulation or can't be seen, we can still  
19 discover that degradation mechanism.

20 So we felt like that a lot of times, even though  
21 there was one program covered, we needed two. And there was  
22 a lot -- there was some resistance to that.

23 The third item, NEI primarily wanted flexibility  
24 in GALL and SRP, so that as time went on they could adapt  
25 new technologies. They could, if ISI changed, it would be

1 automatic that it was okay.

2           However, we had the problem that we had to meet  
3 the 10 elements and justify what we was really reviewing.  
4 So in order to do that, we had to provide the details of  
5 what code, what year code we was looking at, the paragraph,  
6 as well as the non-destructive technique that was being  
7 used, and we had to have detail so that you could see  
8 exactly why we was approving that program.

9           One of the issues, like I said, with NEI was,  
10 well, say ISI changed, how do we handle that? Well, we had  
11 to base our decision on what we really evaluated, what we  
12 looked at, and that is what is documented in GALL.

13           The next item dealt with small bore piping. Small  
14 bore piping, in the current licensing basis, in the current  
15 ASME codes, volumetric examination of small bore piping is  
16 not required. However, in the industry, there is -- there  
17 has been problems with this because of thermal and  
18 mechanical loading on the piping. So it is a problem that  
19 is occurring even in the current licensing basis.

20           We feel that it will even be a worse problem in  
21 the extended licensing period. So we are asking for them to  
22 take a look at some of the small bore piping in the most  
23 susceptible areas to make sure that those won't be a problem  
24 in the extended period.

25           CHAIRMAN BONACA: I believe this was an issue, in

1 fact, on the --

2 MR. ELLIOT: This is on both Oconee and Calvert  
3 Cliffs.

4 CHAIRMAN BONACA: Oconee and Calvert Cliffs. In  
5 both cases there were folded in an inspection program.

6 MR. ELLIOT: Yes. In the case of Oconee, they  
7 have a program that runs, you know, right through the  
8 current license.

9 CHAIRMAN BONACA: That's right.

10 MR. ELLIOT: And Calvert proposed some program.

11 CHAIRMAN BONACA: And so you would have a selected  
12 number of locations?

13 MR. ELLIOT: Yes. Oh, the GALL report doesn't  
14 pick out the locations, that is up to the applicant, and it  
15 is for us to review the locations. But we recommend that it  
16 be inspected, some limiting locations basis.

17 DR. SEALE: Is that consistent with recent  
18 developments? This strikes me about that if you are  
19 successful in your position, it strikes me as in place where  
20 the use of a little bit of risk insights might be  
21 appropriate.

22 MR. ELLIOT: I think that is a very good point,  
23 that is an excellent point. And, in fact, that is what ANL  
24 did. In the next application, which was a PWR application,  
25 which is ANL 1, that is exactly how they handled this

1 question.

2 DR. SEALE: Okay.

3 MR. ELLIOT: That is a very good insight. And we  
4 are discussing that right now to see how they did it.

5 CHAIRMAN BONACA: So the risk insights would be  
6 used to identify the locations?

7 MR. ELLIOT: To find the locations that are  
8 susceptible, and most risk, of course.

9 DR. SEALE: Where do you look for the floor to be  
10 wet?

11 MR. ELLIOT: Are you telling that, or did they  
12 telling you that?

13 [Laughter.]

14 MR. DOZIER: The next issue was void swelling.  
15 Void swelling is primarily the change in dimension of some  
16 internals, and it is primarily a concern in the baffle  
17 former assembly region. We feel that it is an issue. Right  
18 now there is no conclusive evidence. There is some industry  
19 research going on now with EPRI, but we have not got  
20 conclusive evidence that it is not an issue. And so until  
21 we can resolve the issue, we are asking the applicants to  
22 follow the industry efforts in that area to see really where  
23 it is. But until we have conclusive evidence, we feel that  
24 that the issue should stay in GALL.

25 CHAIRMAN BONACA: Now, remember also for the other

1 plants that were reviewed, they committed to inspect.

2 MR. ELLIOT: The other plants have committed to a  
3 program and to implement the results of the program. And in  
4 the case of Calvert, they have actually started inspecting  
5 some of these things for the irradiation stress corrosion  
6 cracking, not for void swelling, though.

7 MR. DOZIER: IASIA intergranular irradiation  
8 assisted stress corrosion cracking was another similar  
9 issue. They feel like it is really not an issue. However,  
10 we have seen IASCC in both PWRs and BWRs. And, again, there  
11 is an industry effort to determine whether or not it is  
12 truly an affect or not, but we don't have conclusive  
13 evidence that it is not, and again -- so it is staying in  
14 GALL, our position is to stay in GALL.

15 MR. McNEIL: I think it putting it fairly mildly.  
16 In fact, I would say the body of experimental data  
17 available, and NRC is a member of an international  
18 consortium that is looking this, is that IASCC does occur in  
19 PWRs, but that I think based on the data that have been  
20 collected is not seriously arguable. The question is how  
21 important are its consequences.

22 MR. DOZIER: As a matter of fact, it has been seen  
23 in the PWR, like the control rod drive mechanism area, where  
24 it is very high strain, in a high strain area, along with a  
25 high fluence field, so it has actually occurred.

1 GALL and SRP did incorporate these Generic Safety  
2 Issues, and, as you can see, several of these are actually  
3 old carryovers. When I showed the NEI comments, some of  
4 those were issues a long time ago that just really hadn't  
5 gone away yet. And we have addressed them in our documents,  
6 however, they may not be totally "resolved."

7 Okay. Going through some of these, 98-004 was  
8 pretty much just an editorial thing. They didn't want early  
9 detection. So basically now we say, the GALL report  
10 recommends some program to detect a failure mechanism,  
11 ensure that the component, tuned in function, will be  
12 maintained during the period of extended operation. It  
13 really don't talk about early detection because they were  
14 really having problems with what does "early" mean.

15 Another is thermal aging and embrittlement of  
16 cast. And what we did there was we made a new chapter in  
17 Chapter 11 that specifically gave them criteria that they  
18 could look at evaluate, which looked at the casting method,  
19 the molybdenum content, as well as the ferrite content. So  
20 we gave guidance in that area.

21 Number 31, IASCC, I talked about above.

22 Stress relaxation of internals, that dealt with  
23 the baffler former bolts and the loss of pre-load due to  
24 stress relaxation there.

25 Primary water SCC of high nickel alloy. One of

1 the real concerns there still is when the demineralizer  
2 resins gets into the primary water and contaminates that  
3 area.

4           It is kind of interesting, Number 34, it was SCC  
5 of PWR reactor coolant system, because in the latter  
6 comments, they were wanting chemistry alone, but in the  
7 earlier days they wanted ISI alone. And so we, I guess we  
8 played with there and are resolved with both. But we  
9 wouldn't go with just ISI alone because when the reactor is  
10 shut down, there may be high oxygen or also potential for  
11 contaminations to get into the line and promote SCC.

12           Degradation of Class 1 piping, we talked about  
13 earlier. Embrittlement, we talked about earlier.

14           Ultrasonic inspection of reactor vessel, we  
15 resolved a lot of that through the BWR VIPs. Actually,  
16 since we did mention the BWR VIP word, if you would like for  
17 Gene Carpenter to address your question earlier on BWR VIPs,  
18 now may be an appropriate time, if you would like.

19           CHAIRMAN BONACA: Yeah, it would be interesting to  
20 know if there is any plan to fold in information into the  
21 GALL report. That was my main issue.

22           MR. CARPENTER: The BWR VIP program has been  
23 folded into the GALL pretty much in toto. Let me give you a  
24 quick background on the BWR vessel and internals project.  
25 It was an outgrowth of the BWR fleet response to Generic

1 Letter 94-03, which was the core shroud cracking which was  
2 discovered at Brunswick back in 1994.

3 They responded to that as a group of utilities  
4 instead of as individual utilities. They came in with  
5 several reports. We reviewed those and found them to be  
6 applicable and it gave us reasonable technical assurance  
7 that they would be able to adequately determine if there was  
8 cracking of the core shrouds and what they could do if there  
9 was such.

10 The BWR vessel internals project, instead of going  
11 away after that, they expanded their scope of operations and  
12 they looked at basically all of the reactor vessel  
13 internals. They expanded it further to take a look at the  
14 reactor vessel itself. And now they are looking at Class I  
15 piping attached to it.

16 So it was a project that I thought would go away  
17 maybe in 18 months and I am still doing it almost six years  
18 later.

19 Since that time they have come in with some 80 BWR  
20 VIP reports, 12 of which are specifically applicable to the  
21 license renewal space, and those are the inspection  
22 evaluation guidelines. And they are, in order, BWR VIP 18,  
23 which deals with core spray, and 25 which deals with the  
24 core plate. 26, top guide. 27, the standby liquid control  
25 system. BWR VIP 38, which is the shroud support. 41, which

1 is jet pumps. 42, the LPCI coupling. 47 is the lower  
2 plenum. 48 is the vessel internal diameter attachment welds  
3 49 is the instrument penetrations. 74, which deals with the  
4 reactor pressure vessel. And 76, which goes back to the  
5 original issue, core shrouds.

6 Of those, we have completed six of the  
7 evaluations. Three more are presently in the concurrence  
8 chain and we expect to complete the three final ones once we  
9 get some responses to some open items from the BWR VIP.

10 CHAIRMAN BONACA: I didn't hear about the core  
11 injection sparger.

12 MR. CARPENTER: The LP -- LPCI coupling core  
13 pressure coolant injection?

14 CHAIRMAN BONACA: Yeah.

15 MR. CARPENTER: That is 42.

16 CHAIRMAN BONACA: Okay. No, I thought the core  
17 spray sparger.

18 MR. CARPENTER: Oh, that is 18.

19 CHAIRMAN BONACA: 18, okay, I didn't hear. All  
20 right. So that is also addressed.

21 MR. CARPENTER: Yes. We have already taken care  
22 of that one. It is on the streets now and it is part of the  
23 Hatch review.

24 CHAIRMAN BONACA: So there is pretty much a  
25 complete set for all the internals.

1 MR. CARPENTER: We expect to have all the reviews  
2 completed, assuming that the BWR VIP responds to those open  
3 items well before the Hatch SC is issued.

4 CHAIRMAN BONACA: And we are planning to review  
5 them for the Hatch application.

6 MR. CARPENTER: That is correct.

7 CHAIRMAN BONACA: In February.

8 DR. SHACK: So something like 74 would then be the  
9 actual -- it is the inspection guidelines, but it is really  
10 -- the 05 would then be the technical basis document.

11 MR. CARPENTER: 74 is the document that has  
12 subsumed the original BWR VIP 05, which was reviewed several  
13 years ago, yes.

14 CHAIRMAN BONACA: How have they addressed the  
15 issue? I mean these are all -- I guess it is just one  
16 vendor? I mean all the vessels were fabricated by?

17 MR. CARPENTER: The vessels were fabricated by a  
18 variety of vendors, CE, CB&I, et cetera. And they have went  
19 in and they have looked at each vessel manufacturer, from  
20 those manufactured several to those that manufactured one,  
21 and they have evaluated what are the concerns there, how  
22 they can do the inspections for each and every one of them.  
23 It is a generic program, but it is a generic program that  
24 has looked at each of the 36 vessels.

25 CHAIRMAN BONACA: Okay. Thank you.

1 Any other questions on the BWR VIP?

2 [No response.]

3 CHAIRMAN BONACA: Thank you.

4 MR. DOZIER: I would like to add to that that NEI  
5 much less comments on the BWR section than the PWR, and we  
6 attribute that, because of the buy-in and the working of the  
7 issues within the BWR VIP program. And so I think that was  
8 a big success that that was going along with the license  
9 renewal effort, and we could pull some of the issues into  
10 the BWR VIP program. So I think it was a good success.

11 Issue 38, visual examinations. That primarily  
12 deal with cast austenetic stainless steel. Again, we gave  
13 specific requirements for molybdenum and ferrite content to  
14 give a little additional guidance on that.

15 44, void swelling, we talked about.

16 DR. SHACK: What is the context of that? Is that  
17 because you don't trust the UT of the cast stainless?

18 MR. ELLIOT: We don't trust the UT, but the issue  
19 is thermal embrittlement for the piping. And to resolve the  
20 issue for the piping, now we are just talking about piping,  
21 I want to talk about -- unless you want to talk about  
22 internals, but let's start with the piping. In the piping  
23 issue we have defined what is susceptible and what is not  
24 susceptible. And for the ones that are not susceptible, the  
25 existing programs are adequate.

1 For the components that are susceptible, we allow  
2 them to do one of two things, either develop an inspection  
3 program which will detect cracks, which we don't have right  
4 now, or to do a flaw tolerance evaluation to see if the lows  
5 are low enough on the piping that a visual examination would  
6 be adequate. It is sort of like, almost a like before break  
7 type of flaw tolerance evaluation.

8 For the internals, it is a whole different story  
9 and it needs an entire different program. We discussed this  
10 before. We could go through this, I could talk for a half  
11 hour on that one, but, you know, that is --

12 DR. SHACK: No, I just wanted to get the context  
13 of this one, that's all.

14 MR. ELLIOT: Okay.

15 MR. GRIMES: There is enough time on the schedule.

16 [Laughter.]

17 DR. SHACK: I have heard Barry get loose on this  
18 one before. You know, we don't want to unleash him.

19 MR. ELLIOT: Well, Allen is here, too, so Allen  
20 can contribute also.

21 MR. DOZIER: Yes, I do want to mention, these were  
22 the primary team of reviewers, but there were also several  
23 others such as Mr. Hiser that were actively involved in the  
24 process.

25 Number 58, definition of the beltline region. We

1 talked about that a little earlier with the fluence level.  
2 And, of course, we are not so much concerned with beltline  
3 region, we are more concerned of the components that reach  
4 the fluence level.

5 59, bolt cracking. We added a section in Chapter  
6 11 that specifically dealt with the bolting issues. We also  
7 addressed the baffle former bolts which were -- one of the  
8 big problems with that was that you could only look at the  
9 head of the bolt. The real problem, though, was between the  
10 head and the shank. And so there was a big concern actually  
11 with how to handle these baffle former bolts. But there has  
12 been numerous failures, numerous operating experience to  
13 justify our issue there.

14 Use of early detection, I have talked about that.

15 Use of codes, again, we actually --

16 CHAIRMAN BONACA: Use of early detection, I mean  
17 concern of early detection. I mean --

18 MR. DOZIER: Right. Well, what we did in the  
19 original GALL was we used that word, you know, we want early  
20 detection. And they say, well, what does that mean, early?  
21 Does that mean two weeks before? Does it mean -- what  
22 really does that mean? But our real concern was that it  
23 maintain its function during the period of extended  
24 operation, and so that is what we really said.

25 CHAIRMAN BONACA: Okay.

1 MR. DOZIER: Because that was easier to define and  
2 to articulate.

3 CHAIRMAN BONACA: I understand.

4 DR. SHACK: Barry, can I just come back to this  
5 beltline region again? You made the remark before that the  
6 NEI wanted to focus on the most limiting case of  
7 embrittlement.

8 MR. ELLIOT: No, no, I said that -- no, no, excuse  
9 me. It is not that NEI wanted to focus on limiting a  
10 portion of it, it is that the focuses on the limiting point  
11 of embrittlement. When we do a pressurized thermal shock  
12 evaluation, or if we do a pressure temperature calculation  
13 for the PT curves, you look at the limiting materials to see  
14 how much embrittlement -- you look at all the materials, but  
15 it is the limiting material which gets closest to the  
16 screening criteria. It is the limiting materials that  
17 determines the actual pressure temperature limit.

18 So, if a component has a very high fluence, it  
19 doesn't take a lot of copper or nickel to become limiting.  
20 If it has a very low fluence like 10 to the 17th, let's say,  
21 then it probably won't ever be limiting, because it just  
22 won't get enough fluence compared to the high copper areas  
23 to become the limiting materials.

24 DR. SHACK: Okay. But you are still focusing then  
25 on limiting material?

1 MR. ELLIOT: No, we focus on all the materials,  
2 but the limiting material determines how close you are to  
3 the screening criteria. And the limiting material  
4 determines your pressure temperature limits. But we look at  
5 every material, we want every -- when the licensee submits  
6 an evaluation, they make an evaluation of all the materials  
7 that have a fluence greater than 10 to the 17th.

8 It is just that the ones with the highest amount  
9 of embrittlement are the limiting ones, and they affect the  
10 PTS screening criteria and the pressure temperature limits.

11 MR. DOZIER: Item 68, use of codes. For ISI, we  
12 used, in the August version, we used the August '89 edition,  
13 and in the March version we will also include the '95  
14 edition of the code.

15 85, reactor vessel fluence, we have talked about.  
16 Pressurizer heater penetrations, those are nickel alloys.  
17 And, basically, what we are asking for all nickel alloys is  
18 to find the most susceptible locations and to determine  
19 whether an augmented inspection program is needed or not.

20 92 was the structures and components that are  
21 presently within a scope. If you really read that, what  
22 that really dealt with was the internals, and that one was  
23 primarily addressed by the BWR VIP program.

24 And then 93, we have talked about ISCC before.

25 DR. SHACK: Let me just come back, I mean the

1 issue here was that they were arguing that irradiation did  
2 not play a role in the core shroud cracking, or what was the  
3 contention here?

4 MR. DOZIER: They felt like IASCC was really not  
5 an issue.

6 DR. SHACK: In the core shroud?

7 MR. DOZIER: Anywhere. Even though actually we  
8 have had, in the PWRs we had problems, like I said earlier,  
9 in the control rod drive mechanism area, because of the  
10 stress and the fluence level. And, also, in BWRs, we saw it  
11 because of high oxygen content in the coolant. But they, as  
12 I say, it is a thing we think is an issue, they don't.

13 MR. GRIMES: Actually, I think to be fair to the  
14 industry, I think they were trying to develop a rationale to  
15 say that there may be an aging effect, but it is not an  
16 aging effect that warrants an aging management program. And  
17 so they were trying to characterize the extent to which an  
18 applicant would have to be into explaining the extent of the  
19 effect and how it would be managed.

20 And, actually, if you look across all of these  
21 issues, they are fundamental throughout the industry  
22 comments, this sense of whether or not there is a necessary  
23 regulatory burden being imposed on the extent to which the  
24 licensing basis is going to have an additional commitment to  
25 perform inspections or to manage an aging effect. And they

1 we are looking to push the state of the art to what they  
2 believed was the realistic limit. And we are just, we are  
3 not ready to do that.

4 And I would like to put a different perspective on  
5 Jerry's description of the extent to which these issues are  
6 unresolved. I think they are resolved because we were asked  
7 to make our expectations about license renewal clear, and we  
8 have done that.

9 MR. DOZIER: Right.

10 MR. GRIMES: And the fact that we drew a line on  
11 our expectations that may require additional effort on the  
12 part of license renewal applicants, Calvert Cliffs and  
13 Oconee have demonstrated that meeting that threshold is not  
14 insurmountable or unnecessarily costly. But to the extent  
15 that it changes the effect of the licensing basis in a way  
16 that is going to add regulatory burden, I am sure that that  
17 is part of GALL being a living document. In the future we  
18 will see some of these things, you know, end up being cut  
19 back because we determine that the regulatory burden is no  
20 longer necessary.

21 And so I want to stress that, particularly for  
22 vessel internals, which I consider an evolving art form,  
23 that, you know, we have made our expectations as clear as we  
24 can based on the state of the efforts on behalf of all of  
25 the Owners Groups to come up with aging management programs

1 for vessel internals.

2 MR. CARPENTER: It should also be noted for the  
3 BWR in particular, that the BWR VIP is presently involved in  
4 cooperation with the staff on some very significant research  
5 into IASCC and they are spending quite a bit of money on it.  
6 They haven't said that, no, IASCC is not an issue. They are  
7 still looking at that and we are -- this is one of our  
8 long-term issues with them.

9 CHAIRMAN BONACA: Let me ask a question, just  
10 about an example. Some BWRs have had, in fact, crackings of  
11 core shrouds and repairs rather than replacement. That is  
12 their experience, others have not experienced that. How  
13 would you address the changes to that kind of operating  
14 experience into a program? Would you expect a different  
15 kind of inspections, more frequent inspections?

16 MR. McNEIL: I would like to make one comment on  
17 that point, that there are some systematics in the cracking  
18 of core shrouds. Core shrouds that are made of 304 crack  
19 faster than those that are made of 304L. Core shrouds that  
20 had what by today's standards would be called bad water  
21 chemistry histories crack more rapidly than those that have  
22 had good water chemistry histories. And so it is possible  
23 to rank the core shrouds, and, to a degree, to rationalize  
24 the degree to which we have cracking.

25 In other words, you can plot up the core shrouds

1 and get where we would have guessed the cracks would be and  
2 the cracks are in those core shrouds that we would have  
3 guessed them to be from this reasoning.

4 CHAIRMAN BONACA: So you would, in fact, then that  
5 might justify a different kind of inspection process or how  
6 aggressively you want to go after it because of that.

7 MR. CARPENTER: Precisely correct. As a matter of  
8 fact, that is what the BWR VIP program was, that they  
9 basically binned the various reactors based on the three  
10 types of core shrouds, those that had good water chemistry,  
11 good materials; those that had poor materials and/or poor  
12 water chemistry; and those that had both. And they also  
13 included age and the amount of radiation that they had  
14 received.

15 CHAIRMAN BONACA: So this would be a good example  
16 of how plant-specific experience is being reflected in the  
17 programs that they are being used in, and this is in GALL.

18 MR. CARPENTER: Yes. Yes. As a matter of fact,  
19 right at this time I think there is only plant that is still  
20 classified as a Category A plant, which means that they  
21 didn't have to perform the inspections in accordance with  
22 the program and what we approved. And that one is about to  
23 become a Category B, which will bump it into the next level,  
24 and then about 10 years later it will become a Category C.

25 CHAIRMAN BONACA: Okay. Very good. Thank you.

1 DR. SHACK: Now, if they go to hydrogen water  
2 chemistry, do they all become A's?

3 MR. CARPENTER: If they go to hydrogen water  
4 chemistry, they get certain benefits from that immediately,  
5 both in reduction in crack growth rates and in reduction in  
6 crack -- pardon me, inspection frequencies and scope. No,  
7 they don't go back to being an A. You don't get that  
8 choice.

9 MR. McNEIL: I think there is a difference here  
10 between the B's and the P's, and that the B's have had a lot  
11 of IASCC over a number of years, in many, many different  
12 parts. This has to do with, of course, the water chemistry,  
13 particularly in the older days when the water chemistry in  
14 the B's was bad by today's standards.

15 It appears that the IASCC begins to kick in on the  
16 P's at a much later level, that is, we are beginning to see  
17 IASCC. We have got lots of experience in IASCC in B's, and  
18 everybody agrees that it happens. General Electric talks  
19 about it all the time, for God's sake, they are the people  
20 that make them. In the P's, we are beginning to see IASCC  
21 in relatively high stress, high fluence components. It is  
22 obviously going to get -- obviously, many more will go into  
23 Bin C, as you would call it, as we go into the license  
24 renewal thing.

25 But the fact that the average owner of PWR is

1 seeing relatively little IASCC, and also because neither we  
2 nor industry groups have so far, despite the best efforts of  
3 Argonne, generated a really major database on this subject  
4 makes it a much foggier and more -- and the details of the  
5 matter a little more -- significantly more controversial.

6 MR. DOZIER: Any other questions here?

7 CHAIRMAN BONACA: No.

8 MR. DOZIER: The next is items of interest. The  
9 Union of Concerned Scientists has been very much involved  
10 and informed of the license renewal process. As a matter of  
11 fact, everything that we send to NEI, the UCS is also on the  
12 letterhead, so they are being disbursed all of our  
13 information. They have also attended our workshops and  
14 provided comments. In the December 6th, they referred --  
15 asked the question, have we considered other sources, for  
16 example, UCS reports? And they provided those to us.

17 Argonne and BNL, BNL took the electrical portions,  
18 Argonne took the mechanical, analyzed those five reports.  
19 Basically, in that analysis, they would identify a specific  
20 component and an aging effect and see if GALL addressed it  
21 or not. And then also if inclusion would be appropriate  
22 into GALL.

23 There were two components that were identified and  
24 those were the jet pump sensing line and the separator  
25 support ring, which were added to the August version.

1           When we sent back the comments from the December 6  
2 workshop, we did notify Union of Concerned Scientists that  
3 we had used their input and acknowledged their contribution  
4 to the license renewal effort. And, also, we may be sending  
5 out a letter that actually provides that matrix for him to  
6 review on a piece by piece of exactly why we said each part  
7 should or should not be in GALL and why.

8           MR. GRIMES: Jerry's slide says that we sent a  
9 letter to UCS, but I confess, through the best efforts of  
10 the staff to try and get a response to UCS, there are two  
11 recent significant events that caused me to hesitate. The  
12 first is we got the UCS comments on GALL, which started off  
13 describing our efforts to more clearly explain the GALL  
14 contents as a bait-and-switch. And the second thing is we  
15 just issued a response to the UCS 2206 petition on Hatch,  
16 which wasn't very kind to the UCS views about either  
17 conformance with the licensing basis or the relative  
18 importance of rad waste systems to plant safety.

19           And so in order to ensure that we maintain a  
20 constructive and useful dialogue with UCS, I am going to  
21 consider how we present the results of our evaluation more  
22 carefully before we send it to them, and also to provide an  
23 avenue that is going to maintain a constructive dialogue  
24 throughout the Commission meeting, which UCS will be a party  
25 to.

1 I would also like to address a comment that Dr.  
2 Wallis made, I believe, at the October 30th meeting, which  
3 implied that perhaps we were endorsing the UCS evaluations  
4 in some way. And I want to emphasize that we don't  
5 necessarily agree with the results of the UCS evaluations,  
6 nor did we need to, nor are we endorsing their findings by  
7 reviewing the results of their work and the carefully  
8 considering it in terms of whether or not GALL captures the  
9 combination of aging effects and the need for aging  
10 management programs.

11 We do think that it was a valuable contribution,  
12 an important piece of looking across all of the engineering  
13 evaluations that could contribute to a complete explanation  
14 of how aging effects should be managed.

15 CHAIRMAN BONACA: Okay. Thank you.

16 So I guess this completes your presentation?

17 MR. DOZIER: Yes. If there are no more questions?

18 DR. UHRIG: Was there not -- it is characterized  
19 as five reports from Union of Concerned Scientists. Was not  
20 one of those an NRC report?

21 MR. DOZIER: Actually, it was. It was a NUREG  
22 requirement that primarily they -- it was very well  
23 referenced, actually, and if you looked at, for example, the  
24 table on it, it was straight out of a NUREG anyway.

25 DR. UHRIG: Well, it looked to me like a

1 preliminary draft that had a warning across the top that  
2 this is preliminary, and then that was slashed out.

3 MR. LEE: I think it referred to the report, I  
4 guess the staff report on EG.

5 DR. UHRIG: Yes.

6 MR. LEE: Back before we had GSI-168 on EQ, the  
7 staff had an action plan on EQ, and that was the study for  
8 that.

9 DR. UHRIG: So that was an NRC report?

10 MR. LEE: That's correct.

11 DR. UHRIG: Okay.

12 MR. DOZIER: I guess, really, the analysis of  
13 those reports, primarily, if you look at the references,  
14 though, it would reference back to a lot of times NRC  
15 material.

16 CHAIRMAN BONACA: Any more questions for the  
17 presenters?

18 [No response.]

19 CHAIRMAN BONACA: None. So I thank you very much  
20 for the presentation.

21 I think this concludes the presentations for  
22 today. This takes us one hour of their time, it is a speedy  
23 review.

24 Before we adjourn, we have on the agenda a  
25 discussion of whatever we heard today. Clearly, we will

1 have one to wrap up tomorrow. But I would like to give a  
2 chance to the members to go around the table and express  
3 some of, you know, their perspectives on what we viewed  
4 today. And if there are any specific questions we should  
5 ask of the staff now, or any recommendations regarding what  
6 should go in the -- well, we will take care of that for the  
7 full committee presentation tomorrow morning.

8 With that, I will start on my left here. Bill, do  
9 you have any?

10 DR. SHACK: No. It seems to me that they have  
11 made a considerable amount of progress in incorporating a  
12 vast amount of information here. I haven't seen anything  
13 that particularly disturbs me in terms of omissions or  
14 things. But, again, it is just an enormous amount of  
15 material to absorb, but nothing particularly strikes me  
16 here.

17 CHAIRMAN BONACA: Bob.

18 DR. UHRIG: Well, I was sort of hit by this  
19 statement the reactor vessel surveillance program is not a  
20 TLAA. I guess it is a matter of semantics in some respect  
21 because, clearly, this is an issue that has to be and is  
22 addressed. I don't have a problem, it is just that the way  
23 it is stated here sort of didn't make too much sense.  
24 Whereas, the next one where it came up, the Commission, the  
25 staff basically, the tendon pre-stress management is not a

1 TLAA, that statement, and they rejected that statement,  
2 whereas, the other one, they accepted.

3 But, basically, there is an aging management  
4 process here. I agree with Bill, a tremendous amount of  
5 material.

6 MR. GRIMES: I believe that we are treating the  
7 containment tendon the same way. And as a matter of fact, I  
8 would offer that we are our own worst enemy in this respect  
9 because when the rule was constructed, we talked about aging  
10 management programs to manage aging effects for a scope of  
11 structures and components, and then we tried to separate out  
12 time-limited aging analysis, but then we offer as the third  
13 option that you can use an aging management program. So,  
14 does an aging management program for a time-limited aging  
15 analysis mean that it is not a time-limited aging analysis?

16 DR. UHRIG: That was what was confusing me, and I  
17 finally concluded it was semantics.

18 DR. SEALE: Well, in the first comment, though,  
19 the identification of what should be a TLAA, and in that  
20 case the question was that you may not need a list, but,  
21 rather, you ought to go back and look at current licensing  
22 basing documents as the starting point. But once you do  
23 that, then you will have TLAAs in your eyes, whereas, the  
24 NEI people had objected to that. So you require a TLAA  
25 where appropriate.

1           MR. LEE: I guess the rule defines TLAA, that is  
2 criteria, that is laid out in the rule, okay, why the  
3 criteria is a calculation. So when it comes to it, we have  
4 the assurance program. NEI is saying there is no  
5 calculation anymore. And that is why, just by the strict  
6 definition of TLAA, NEI says it is not TLAA. You still  
7 manage it, okay, it is just a matter of putting a label on  
8 it, okay. For the tendon assurance program, in that case  
9 you actually have a calculation, you have to project the  
10 tendon, the pre-stress loss, okay, that is part of your  
11 program. It is not the only piece of the program. But NEI  
12 is looking at the other side, saying, hey, it is the  
13 program, and that is why it is not a TLAA.

14           CHAIRMAN BONACA: Well, I mean the tendon really  
15 is not a calculation for 40 years, it is a calculation, a  
16 limit. So if you bump into it, --

17           DR. KUO: No. If I may add, the design of a  
18 tendon is that it starts with a 40 years prediction.

19           CHAIRMAN BONACA: Okay.

20           DR. KUO: Okay. Actually, it accounts for the  
21 loss, pre-stress loss for 40 years. So the tendon is  
22 tensioned to a much higher level and allows the pre-stress  
23 loss over the 40 years. But in many of these tendons, the  
24 pre-stress loss actually is much more than what was  
25 predicted, okay, in some cases they have to retension it

1 during the first 40 years, okay. Therefore, they view that  
2 as a program, instead of a time-limited aging analysis.  
3 Okay.

4 So, in this case, yes, your question is correct,  
5 it is a TLAA because it was designed for 40 years to start  
6 with. There is a calculation that was done. However,  
7 because this pre-stress loss over the years, they actually  
8 had a program, the program actually in one time is in the  
9 tech spec, so they view that as a program.

10 MR. GRIMES: I would to cut to the chase, and Dr.  
11 Uhrig is quite correct, this is a semantic issue. And so  
12 long as we have a clear rationale that says that we have  
13 identified the intended function and that we have a  
14 reasonable assurance that that intended function will be  
15 maintained, whether you call it a time-limited aging  
16 analysis or a program, that is what we consider important to  
17 the clarity of the guidance.

18 DR. UHRIG: Well, that was the conclusion I came  
19 to is that the bottom line was it was being adequately dealt  
20 with.

21 DR. SEALE: Yeah.

22 CHAIRMAN BONACA: Okay. Thank you. Graham.

23 DR. LEITCH: I have no real comment. I thought  
24 the presentations were helpful as far as my understanding of  
25 the entire process and the resolution of the NEI comments

1 particularly. I think I have a much better appreciation  
2 now. I guess we are going to hear some more about it later,  
3 about where Chapter X and XI fit into the process and I  
4 found the comments -- the discussion very helpful.

5 CHAIRMAN BONACA: Thank you. Bob.

6 DR. SEALE: Well, you assigned me Chapter IV, and  
7 I am still mulling over all of the juicy details in that  
8 one, and, believe me, it seems to be quite a bit, and I do  
9 want to see what X and XI have in it, too, as you go through  
10 it with us. But I don't think there is anything  
11 inconsistent from what we have heard in other related kinds  
12 of presentations. It sounds like the consistency is there.

13 In listening to the NEI disagreements, I don't,  
14 for the life of me, at this point, see any places where I  
15 feel that you are being unreasonable in taking the position  
16 you take. I guess it is always desirable to try to get what  
17 you can, but it is also important that you resist that where  
18 you think that it is appropriate.

19 And in the UCS comments, well, I may want to take  
20 a look at a couple of those in a little more detail. Maybe  
21 I can get some additional information from you on those.  
22 But other than that, I don't have anything at this point.

23 CHAIRMAN BONACA: Okay. All right. All set.

24 Jack.

25 MR. SIEBER: You assigned me Chapters II, III, VII

1 and VIII. The stuff discussed today, I thought it was all  
2 pretty good, but the one issue that we talked about during  
3 the break, about not including earthen dams and the tables,  
4 I think it would help the GALL report organization if it  
5 were in. Other than that, the presentations were good and  
6 it took a lot of time to read all this stuff.

7 DR. UHRIG: On the subject of dams, the ones that  
8 I am most familiar with have built in leak detection  
9 systems. These are not under NRC jurisdiction, but --

10 MR. SIEBER: There are some dams that were modern  
11 dams and some that are not.

12 DR. UHRIG: Yeah, that's true.

13 MR. SIEBER: This is not only a dam, for example,  
14 impoundment for an ultimate heat sink, it could be a dam on  
15 a river that sits right next to your plant, which we had,  
16 that was built in 1920.

17 DR. SEALE: What about, I guess I would call them  
18 berms rather than dams? The things around waste water  
19 retention basins and things like that.

20 MR. SIEBER: Dikes. That is in there. I think  
21 there is a reference to that in Chapter XII.

22 DR. SEALE: Okay.

23 MR. GRIMES: That is a helpful comment. We can  
24 look at clarifying that. There are dams and impoundments  
25 that are relied on so that safety functions can be performed

1 for ultimate heat sink, but there are also -- my experience  
2 was the Heriman dam above Yankee. There are dams and  
3 impoundments whose failure can seriously jeopardize your  
4 plant if you haven't -- don't have curbs and water-tight  
5 doors and things like that.

6 MR. SIEBER: If it is an upstream dam that fails,  
7 you might have a flooding problem. If it is a downstream  
8 dam that fails and you are on a river, the river level may  
9 go low enough to cause you to lose suction on pumps.

10 MR. GRIMES: This is an area where, you know, GALL  
11 reflects only the experience that we had at Oconee where we  
12 concentrated our efforts on the FERC program and how that  
13 stacked up against the attributes of an effective aging  
14 management program. And I learned more than I ever wanted  
15 to know about dams in that process.

16 But that, along with extending that experience to  
17 the Corps of Engineers program. So there is obviously going  
18 to be some room for us to learn more about embankments,  
19 impoundments, you know, and other kinds of water-retaining  
20 structures.

21 DR. SEALE: They occur in the strangest places,  
22 too. Palo Verde flooded.

23 MR. GRIMES: Well, I got to watch the Palo Verde  
24 lakes grow in the middle of the desert.

25 DR. SEALE: Yeah.

1 MR. GRIMES: But one of the other things that we  
2 -- one of the other experiences that we had was we were all  
3 set to go look at an underwater wier, and I was going to get  
4 my scuba certification and everything to go down to Ocone  
5 and find the water control structure that was relied on to  
6 capture the heat sink when they changed the licensing basis  
7 and they didn't rely on it anymore. So we missed a big  
8 opportunity for me to learn about underwater wiers.

9 But that would be useful for us to clarify that  
10 area. So that is good feedback.

11 MR. SIEBER: All it would really amount to is a  
12 reference.

13 MR. GRIMES: Right, yes.

14 MR. SIEBER: Put it in there and refer back to  
15 Chapter XI.

16 DR. KUO: Well, actually, Ronda just handed me a  
17 page from the Gall report that is page 7, C3-3, and Item C3,  
18 the title is "Ultimate Heat Sink." And there is a statement  
19 there, it says, "A pump with AMPS shall be provided to trend  
20 and project, one, deterioration of earthen dams and  
21 impoundments." Okay. It was referenced. We don't have a  
22 table for that.

23 MR. SIEBER: That is all it suggested.

24 CHAIRMAN BONACA: Thank you, Jack. Tom.

25 DR. KRESS: I pretty much agree. I didn't

1 specific problems with my sections. I still have to digest  
2 a lot of it.

3 CHAIRMAN BONACA: Okay. In general, I also --  
4 part of the review I felt comfortable with. I think that  
5 tomorrow we will talk about those seven criteria that we  
6 selected and that will be the time to reflect on those,  
7 because we want to address them probably in our report.

8 But I seem to be -- the document seems to be  
9 well-integrated. It will definitely lead the staff to  
10 develop a comprehensive understanding of technical issues.  
11 So we will talk about those tomorrow.

12 I still have three issues I raised before. One is  
13 we will at some point need to maybe talk about doing the  
14 main meeting in two weeks. Understand the EOPs are  
15 referenced the FSAR, are considered to be part of the  
16 current licensing basis. If they are, then there should be  
17 more explicit guidance on their use. If they are not, then  
18 we have to ask the question, does the rule emphasis on CLB  
19 represent too narrow a box? I mean we need to just reflect  
20 on that, understand it and just throw it one way or the  
21 other.

22 The second issue that we need to clarify is  
23 voluntary commitments. There are many voluntary commitments  
24 that were voluntary because the industry said, well, if we  
25 don't make it voluntary, the NRC will come up with some

1 requirement, and then the accident management was on those.  
2 Are these voluntary commitments in general still valid  
3 during the period of extended operation? If they are, there  
4 ought to be some mention somewhere in the guidance that that  
5 is a fact. Information simply clarifies the issues.

6 If they are not, then we have to understand what  
7 that means. Does it mean that we are allowing for the  
8 plants to be less capable during the period of extended  
9 operation? That is an issue that we need to hear about.

10 And, again, I mean I am not prejudging, I think it is just a  
11 legitimate question.

12 And the third one that I would like to, you know,  
13 that I think is important is more to the effect of the value  
14 of the guidance. How will future experience be folded in  
15 the GALL II report? I think if you look at how much  
16 information we got from two applications that went into  
17 GALL, there was quite a bit.

18 You know, we are likely to have, after five or six  
19 applications, a lot more information that is not going to be  
20 in the GALL II report, and that to the degree to which the  
21 GALL II is going to be a big help to facilitate both the  
22 application and the review, you know, I would be interested  
23 to know -- and I am sure there are no plans yet, -- but, you  
24 know, how do we use this valuable information? How do we  
25 make it available? I mean --

1 DR. SEALE: The question is, how much smarter can  
2 Chris afford to get?

3 CHAIRMAN BONACA: For example, there are many  
4 places where we talked about it before. There is, you know,  
5 statement in the GALL that says you need more, but there is  
6 no criteria.

7 Now, we heard that that's due to the limited  
8 amount of experience to date, and there will be more  
9 experience, there will be answers to those questions of, you  
10 know, what "more" means.

11 And at some point, it will be valuable to  
12 understand how it's going to be made available. I mean,  
13 either -- if the NUREG is not a proper vehicle, certainly,  
14 for example, the NEI documents could be updated, revisions  
15 could be made. I don't know. But that's an issue we maybe  
16 want to hear about.

17 Beyond that, I'm quite impressed by the amount of  
18 guidance that is available there to the industry. With  
19 that, I don't have any more comments.

20 DR. SEALE: I'll make one other comment before,  
21 but I don't want Shack to get too cocky about it.

22 [Laughter.]

23 DR. SEALE: I think our Committee is often making  
24 comments about the quality of some of what the support staff  
25 has gotten from the National Laboratories and places like

1 that. Some of it hasn't been too laudatory on occasion, but  
2 I think the people, the Brookhaven people and Argon people  
3 that worked on this report really have done a good job and  
4 have performed a real service. I think that's worked out  
5 well.

6 DR. UHRIG: This looks ahead to tomorrow. When we  
7 get into the electrical components, there's the issue of the  
8 unresolved GSI-168, and I think there's going to be  
9 different results if it's resolved one way, versus resolved  
10 other ways.

11 Perhaps you could address that issue tomorrow.

12 MR. GRIMES: Okay.

13 CHAIRMAN BONACA: Yes, we need to hear about that,  
14 and also we have a consultant report focused on the issue of  
15 cabling, and he raised a number of issues. Clearly, it's a  
16 very sensitive area.

17 I mean, at the last meeting, we were presented  
18 with a number of samples of cable material --

19 MR. GRIMES: I'll be happy to get my crystal ball  
20 out tomorrow and do the best I can.

21 Also, I would like to mention that at the  
22 conclusion of the meeting tomorrow, I would intend on going  
23 back and summarizing what feedback we've gotten during the  
24 course of the two days, what actions we intend to take, and  
25 I'd like to agree on a set of topics that you'd like us to

1 cover for the full Committee.

2 CHAIRMAN BONACA: Absolutely.

3 MR. GRIMES: And we can get some idea about the  
4 level of detail you'd like us to cover.

5 CHAIRMAN BONACA: Yes, particularly the format  
6 somewhat different in the sense that the full Committee  
7 doesn't need to look at all the issues, but more focusing on  
8 some of the ones we raised, and then on the seven issues  
9 that we took as general criteria for our review.

10 MR. GRIMES: Yes. I would like to point out that  
11 we would also want to reflect back on the public comment,  
12 the specific questions that we raised in the Federal  
13 Register on public comment.

14 And one of those dealt with how do we treat codes  
15 and standards. You noted that we added an explanation  
16 that's a very general description of the treatment of the  
17 ASME Code and the reliance on the regulatory process, the  
18 50.55(a) changes to control the way that 50.55(a) affects  
19 the licensing basis.

20 And we sought input on how we should treat other  
21 codes and standards in terms of their evolution in the  
22 future, recognizing that we're trying to project the program  
23 features, you know, a decade from now, that would last for  
24 20 years beyond that.

25 So we'd like your thoughts in that area as well in

1 terms of whether the ACRS has a particular view that you'd  
2 like to share with us that we could sponsor in the way of  
3 additional guidance.

4 CHAIRMAN BONACA: Okay. Paul, do you have any  
5 points?

6 MR. DUDLEY: I think it's fairly well covered, and  
7 well laid out on what needs to be done tomorrow.

8 CHAIRMAN BONACA: Okay, so we're going to resume  
9 the meeting tomorrow at 8:30, and we have an understanding  
10 of what we are going to do, okay. With that, if there are  
11 no further questions or comments from the public, the staff,  
12 I will adjourn the meeting for today.

13 [Whereupon, at 3:23 p.m., the Committee was  
14 recessed, to be reconvened on Friday, October 20, 2000, at  
15 8:30 a.m.]

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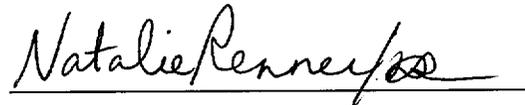
REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

NAME OF PROCEEDING:           ACRS - PLANT LICENSE RENEWAL  
  PUBLIC MEETING

PLACE OF PROCEEDING:        ROCKVILLE, MD

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



Natalie Renner

Transcriber

Ann Riley & Associates, Ltd.



**ADVISORY COMMITTEE ON REACTOR SAFEGUARDS**

**PLANT LICENSE RENEWAL SUBCOMMITTEE**

**OCTOBER 19-20, 2000**

**LICENSE RENEWAL GUIDANCE DOCUMENTS**

OCTOBER 19, 2000  
- AGENDA -

**GENERAL TOPICS**

- I. Opening Remarks
  
- II. Introduction and Overview
  
- III. Standard Review Plan:
  - Scoping and Screening Methodology
  - Scoping and Screening Results
  - Aging Management Review Results
  - Time-Limiting Aging Analysis
  - Branch Technical Positions
  
- IV. Generic Aging Lessons Learned (GALL) Report
  - Summary
  - Chapter X: Time-Limited Aging Analysis
  - Chapter XI: Aging Management Programs
  - Chapter II: Containment Structures
  - Chapter III: Structures and Component Supports
  - Chapter IV: RPV Internals and Reactor Coolant System
- Discussion
- Recess

**PRESENTER**

**M. Bonaca, ACRS  
Chairman of Subcommittee**

**Sam Lee, NRR**

**S. K. Mitra, NRR  
S. K. Mitra, NRR  
Sam Lee, NRR**

**Sam Lee, NRR**

**Peter Kang, NRR**

**Hai-Boh Wang, NRR**

**Jerry Dozier, NRR  
M. Bonaca, ACRS  
M. Bonaca, ACRS**

OCTOBER 20, 2000  
- AGENDA -

**GENERAL TOPICS**

**PRESENTER**

I. Opening Remarks

M. Bonaca, ACRS

II. GALL Report (cont.)

Chapter V: Engineered Safety Features

Rani Franovich, NRR

Chapter VI: Electrical Components

S. K. Mitra, NRR

Chapter VII: Auxiliary Systems

Tamara Bloomer, NRR

Chapter VIII: Steam and

Power Conversion Systems

Jim Strnisha, NRR

III. Draft Regulatory Guide

Sam Lee, NRR

IV. NEI 95-10 "Guidance for  
Implementing Requirements of  
10 CFR Part 54"

NEI

V. ACRS Feedback and Topics for  
Full Committee

Chris Grimes, NRR

VI. Discussion

M. Bonaca, ACRS

VII. Adjournment

M. Bonaca, ACRS

## **INTRODUCTION AND OVERVIEW**

- **Generic Aging Lessons Learned (GALL) Report**
- **Standard Review Plan for License Renewal**
- **Regulatory Guide for License Renewal**
- **Nuclear Energy Institute (NEI) 95-10**

## **BACKGROUND**

- **Guidance provided by SRM for SECY 99-148**
  - **Document basis for acceptance of existing programs**
  - **Focus on areas where existing programs should be augmented**
  - **Develop documents with stakeholder participation**
  - **Brief Commission on public comments**
  - **Commission approval**
  - **Recommendation on rulemaking after additional review experience**

## **OVERVIEW**

- **GALL report and SRP intended to work together**
- **Draft Regulatory Guide (DG-1104) proposes to endorse NEI 95-10**
- **Invite stakeholders comments**
  - **Workshop held on December 6, 1999**
  - **12 public meetings held from March-July 2000**
  - **Workshop held on September 25, 2000**
- **Documents have been integrated to the extent practicable**

## SCHEDULE

<u>Item</u>	<u>Date</u>	<u>Actual</u>
Issue draft GALL, SRP, and RG/NEI 95-10 for public comment	8/00	8/31/00
Public meeting and workshop to gather public comments	9/00	9/25/00
NEI revise NEI 95-10	10/00	
ACRS License Renewal Subcommittee Meeting	10/00	10/19-20/00
ACRS Full Committee Meeting	11/00	11/3/00
Commission briefing on public comments on draft GALL, SRP, and RG/NEI 95-10	11/00	12/4/00
ACRS meeting on GALL, SRP, RG/NEI 95-10	2/01	
Commission approval of GALL and SRP	3/01	
NEI comment on need for rulemaking	4/01	
Public meeting to discuss need for rulemaking	5/01	
Staff recommendation to Commission on rulemaking	7/01	

## **LICENSE RENEWAL ISSUES**

- **98-001 - Credit for existing programs**
- **98-060 - Inconsistencies in SRP**
- **98-061 - Use of “should,” “could,” or “may”**
- **98-066 - Inspection activities**
- **98-076 - Level of staff review of Part 50**
- **98-108 - Safety evaluation report format**

# **STANDARD REVIEW PLAN**

**(NUREG-1800)**

- **Reference GALL report for crediting existing programs**
- **Incorporate lessons learned and license renewal issues**
- **Compatible with standard format of license renewal application**

# STANDARD REVIEW PLAN

## Table of Contents

<u>Chapter</u>	<u>Title</u>
1	Administration Information
2	Scoping and Screening Methodology for Identifying Structures and Components Subject to Aging Management Review, and Implementation Results
3	Aging Management Review Results
4	Time-Limited Aging Analyses
App A	Branch Technical Positions

## **STANDARD REVIEW PLAN**

### **2.1 SCOPING AND SCREENING METHODOLOGY**

#### **NEI Comments**

- **Reviewer should focus on verifying applicant has implemented an acceptable scoping methodology rather than verifying no omission of structures and components subject to aging management review**
- **Individual Plant Examination and Individual Plant Examination of External Events results should not be used in license renewal scoping**
- **Explicit identification of Design Basis Events may not be necessary for all plants**
- **Examples used in Standard Review Plan should acknowledge preeminence of plant specific current licensing bases**

## **License renewal Issues**

- **98-007 - Risk-informed license renewal**
- **98-012 - Consumables**
- **98-023 - Methodology review**
- **98-024 - Methodology review guidance**
- **98-072 - Developing commodity groups**
- **98-073 - Boundaries in scoping process**
- **98-082 - Hypothetical failures**
- **98-090 - Clarify “design basis conditions”**
- **98-096 - Applicability of piece-parts**

## STANDARD REVIEW PLAN

### 2.2 - 2.5 SCOPING AND SCREENING RESULTS

#### NEI Comments

- **Scope of review (Design Basis Events)**
- **No omission of structures and components subject to aging management review**
- **“Verify” applicant’s scoping/screening results**

#### License Renewal Issues

- **98-008 - Components lists**
- **98-011 - Passive/active determination**
- **98-016 - Fuses, active or passive**
- **98-017 - Transformers, active or passive**
- **98-018 - Indicating light (dual filaments)**
- **98-019 - Heat tracing**
- **98-020 - Electrical heaters**
- **98-021 - Recombiners**
- **98-102 - Motor/breakers in storage**
- **98-105 - Heat exchanger transfer function**

## **STANDARD REVIEW PLAN**

### **CHAPTER 3. AGING MANAGEMENT REVIEW RESULTS**

#### **License Renewal Issues**

- **98-009 - FSAR content**
- **98-070 - Handling of tasks**
- **98-094 - Technical specification information**

#### **Item of Interest**

- **References the draft GALL report to focus staff review in areas where programs should be augmented**

## **STANDARD REVIEW PLAN**

### **CHAPTER 4: TIME-LIMITED AGING ANALYSES (TLAAs)**

#### **4.1 IDENTIFICATION OF TIME-LIMITED AGING ANALYSES**

##### **NEI Comments**

- **TLAA example lists may not be necessary**
- **TLAA review should begin with the FSAR and other current licensing basis documents**

## **4.2 REACTOR VESSEL NEUTRON EMBRITTLEMENT**

### **NEI Comments**

- **Reactor vessel surveillance program is not a TLAA**
- **Updated pressure-temperature limit curves must be available prior to entering the period of extended operation (Appendix G to 10 CFR Part 50)**

### **License Renewal Issue**

- **98-027 - Pressurized thermal shock requirement under 10 CFR 50.61**

### **4.3 METAL FATIGUE**

#### **NEI Comment**

- **GSI-190, “Fatigue evaluation of metal components for 60-year plant life,” could be addressed by an inspection program in the future**

#### **License Renewal Issues**

- **98-028 - Fatigue of metal components**
- **98-075 - High energy line breaks**

#### **Item of Interest**

- **References Chapter X of the draft GALL report for an acceptable aging management program that monitors the number of transients for the reactor coolant pressure boundary**

## **4.4 ENVIRONMENTAL QUALIFICATION (EQ) OF ELECTRIC EQUIPMENT**

### **NEI Comment**

- **Should be revised to reflect NEI comments on Chapter VI of the GALL report**

### **License Renewal Issue**

- **98-029 - EQ of low-voltage cables**

### **Item of Interest**

- **References Chapter X of the draft GALL report for the determination that the EQ program is an acceptable aging management program**

## **4.5 CONCRETE CONTAINMENT TENDON PRESTRESS**

### **NEI Comments**

- **Tendon prestress management is not a TLAA**
- **Should be revised to reflect NEI comments on Chapter II of the GALL report**

### **Item of Interest**

- **References Chapter X of the draft GALL report for an acceptable aging management program that assesses the tendon prestressing forces**

## **4.6 CONTAINMENT LINER PLATE, METAL CONTAINMENTS, AND PENETRATIONS FATIGUE ANALYSIS**

### **NEI Comment**

- **Should be revised to reflect NEI comments on 4.3 of the draft Standard Review Plan on metal fatigue**

## **4.7 OTHER PLANT-SPECIFIC TIME-LIMITED AGING ANALYSES**

### **NEI Comments**

- **Minor comments**

### **License Renewal Issues**

- **98-010 - Time-Limited Aging Analysis timing**
- **98-071 - Condition monitoring and TLAAs**
- **98-095 - Demonstration requirements for TLAA**

## **STANDARD REVIEW PLAN**

### **APPENDIX A: BRANCH TECHNICAL POSITIONS**

#### **A.1 AGING MANAGEMENT REVIEW - GENERIC (BRANCH TECHNICAL POSITION RLSB-1)**

##### **License Renewal Issues**

- **98-002 - Demonstration details**
- **98-003 - Operating experience**
- **98-005 - Applicable aging effects**
- **98-013 - Degradation by human activities**
- **98-015 - Attributes of an aging management program**
- **98-062 - Monitoring and trending**
- **98-063 - Corrective action requirements**
- **98-064 - Acceptance criteria requirements**
- **98-079 - Abnormal events contribution**
- **98-080 - Leakage from bolted connection**
- **98-081 - Using event initiated occurrences**

## **Item of Interest**

- **Generic guidance used in reviewing initial applications and in preparing the draft GALL report**

## **A.2 QUALITY ASSURANCE FOR AGING MANAGEMENT PROGRAMS (BRANCH TECHNICAL POSITION IQMB-1)**

### **License Renewal Issues**

- **98-045 - Software quality control**
- **98-065 - Inspection qualification requirements**

### **A.3 GENERIC SAFETY ISSUES RELATED TO AGING (BRANCH TECHNICAL POSITION RLSB-2)**

#### **License Renewal Issues**

- **98-006 - Generic Safety Issues**
- **98-054 - USIs/GSIs applicable to license renewal**
- **98-101 - Review of GSI-23, 78, 166, and 173**

#### **Item of Interest**

- **Although GSI-173.A, "Spent Fuel Storage Pool: Operating Experience," remains open, the issue does not involve aging and does not need to be specifically addressed for license renewal**

## **GENERIC AGING LESSONS LEARNED (GALL) REPORT (NUREG 1801)**

- **Build on previous GALL report (NUREG/CR-6490)**
- **Review aging effects**
- **Identify relevant existing programs**
- **Evaluate program attributes to manage aging effects**

# **GENERIC AGING LESSONS LEARNED REPORT**

## **Table of Content for Volume 1 (Summary)**

- **Introduction**
- **GALL Report Evaluation Process**
- **Application of GALL Report**
- **Summary and Recommendations**
- **Appendices**

**Plant Systems Evaluated in the GALL Report (Volume 2)**

**Table of Item Numbers in the GALL Report (Volume 2)**

# GENERIC AGING LESSONS LEARNED REPORT

## Table of Contents for Volume 2 ( Tabulation of Results)

<u>Chapter</u>	<u>Title</u>	<u>RLSB Technical Lead</u>
I	Application of ASME Code	
II	Containment Structures .....	Peter Kang
III	Structures and Component Supports .....	Hai-Boh Wang
IV	Reactor Vessel, Internals, and Reactor Coolant System .....	Jerry Dozier
V	Engineered Safety Features .....	Rani Franovich
VI	Electrical Components .....	Sikhindra Mitra
VII	Auxiliary Systems .....	Tamara Bloomer
VIII	Steam and Power Conversion System .....	Jim Strnisha
IX	Not Used	
X	Time-Limited Aging Analyses	
XI	Aging Management Programs	
Appendix	Quality Assurance for Aging Management Programs	

## **GALL - CHAPTER II**

### **CONTAINMENT STRUCTURES**

#### **NEI Comments**

- **Inaccessible areas:**
  - Concrete**
  - Structural steel and liner**
- **Protective coating monitoring and maintenance program**
- **Visual (VT-1 vs. VT-3) examination for cracking**
- **Elevated temperature for concrete**
- **Settlement:**
  - Cracks due to settlement**
  - Reduction in foundation strength due to erosion**

## License Renewal Issues

- **98-040 - Freeze-thaw damage in concrete**
- **98-041 - Concrete alkali-aggregate reaction**
- **98-042 - Different settlement in containment**
- **98-046 - TGSCC of containment bellows**
- **98-048 - Applicability of IWE/IWF**
- **98-049 - IWE/IWL in inaccessible areas**
- **98-050 - IWE/IWL to include basemat**
- **98-051 - IWE/IWL jurisdiction**
- **98-052 - IWE/IWL operating experience**
- **98-084 - Lockup as aging effect for airlocks**
- **98-087 - Containment temperature**
- **98-106 - UT qualifications for containments**
- **98-107 - Containments subfoundation erosion**

## **GALL - CHAPTER III**

### **CLASS 1 STRUCTURES AND COMPONENT SUPPORTS**

#### **NEI Comments**

- **Application of the structural monitoring program**
- **Shrinkage and aggressive environment of masonry walls -masonry wall program**
- **Stress corrosion cracking of fuel pool stainless steel liner - plant specific program(s)**
- **Loss of material of concrete elements for water controlled structures - RG 1.127**

## **License Renewal Issues**

- **98-039 - One-time (baseline) inspection of structures**
- **98-040 - Freeze-thaw damage in concrete**
- **98-042 - Different settlement in containment**
- **98-043 - Reinforcement corrosion**
- **98-057 - Crediting maintenance rule program**
- **98-088 - General inspection requirements**
- **98-091 - Functions for complex structures**
- **98-100 - Aging review related to dams**

## **GALL - CHAPTER IV**

### **Reactor Vessel, Internals, and Reactor Coolant System**

#### **NEI Comments:**

- **Neutron aging embrittlement does not need to be managed until a fluence level of  $10E21$  is reached, instead of  $10E17$ .**
- **American Society of Mechanical Engineers inservice inspection should not be credited, if there is another aging management program.**
- **Remove examination category and details from American Society of Mechanical Engineers inservice inspection**
- **Small bore piping should not require aging management**
- **Void swelling is not a plausible aging mechanism**
- **Irradiation-assisted stress corrosion cracking is not applicable for most PWR vessel internals**

## License Renewal Issues

- **98-004 - Editorial: use of “early” detection**
- **98-030 - Thermal-aging embrittlement of cast austenitic stainless steel**
- **98-031 - Irradiation-assisted stress corrosion cracking of reactor vessel internals**
- **98-032 - Stress relaxation of internals**
- **98-033 - Primary water stress corrosion cracking of high-nickel alloy**
- **98-034 - Stress corrosion cracking of PWR reactor coolant system**
- **98-035 - Degradation of Class 1 small-bore piping**
- **98-036 - Neutron irradiation embrittlement**
- **98-037 - Ultrasonic inspection of reactor vessel**
- **98-038 - Visual examinations**
- **98-044 - Void swelling of internals**
- **98-058 - Definition of beltline region**
- **98-059 - Bolt cracking**
- **98-067 - Use of early detection**
- **98-068 - Use of codes**
- **98-085 - Reactor vessel fluence**
- **98-086 - Pressurizer heater penetrations**
- **98-092 - Structures and components not presently within the scope**
- **98-093 - Irradiation-assisted stress corrosion cracking of core shroud**
- **98-098 - Include less than 8" piping in 3.6.1**

## **Union of Concerned Scientists (UCS) Comments**

- **Union of Concerned Scientists provided 5 reports for consideration as input to GALL**
- **Components/aging effects were identified from the reports and compared to GALL**
- **The jet pump sensing line and separator support ring were added to the August version of GALL**
- **Letter was sent to Union of Concerned Scientists providing the details of the review**

**GALL - CHAPTER V**

**ENGINEERED SAFETY FEATURES**

**NEI Comments**

- **One-time inspections are not needed - reasonable assurance is provided by existing aging management programs**
- **Use of GALL report for scoping**
- **Inservice testing is not an appropriate aging management program and should be deleted from the GALL report  
(Appendix J testing was deleted from Chapter V as an aging management program for the same reason)**

## **License Renewal Issue**

- **98-083 - Stress corrosion cracking of carbon steel**

## **Items of Interest**

- **Corrosion and loss of material for stainless steel in borated water systems was deleted**
- **Containment isolation valves for some systems are addressed in multiple chapters**
- **Atmospheric corrosion of carbon steel components (external surface) was added generically**

**GALL - CHAPTER VI**

**ELECTRICAL COMPONENTS**

**NEI Comments**

- **Treatment of inaccessible/buried non-environmentally qualified cables**
- **Elimination of certain non-environmentally qualified long-lived passive electrical components**
- **Inclusion and recognition of Industry report(s) useful for aging management**
- **Separation of discussions on aging management program (non-environmentally qualified) and Time-Limited Aging Analysis (environmentally qualified)**

- **License Renewal Issues**
  - **98-077 - Tables consistent with the rule**
  - **98-089 - Intended function of regulations**
  - **98-097 - System vs component level functions**

## **GALL - CHAPTER VII**

### **AUXILIARY SYSTEMS**

#### **NEI Comments**

- **Spent fuel pool cooling and cleanup corrosion - water chemistry aging management program**
- **Buried piping aging management program - buried piping aging management program based on National Association of Corrosion Engineers RP-01-69**
- **Aging mechanisms for bolts - removal of wear as an aging mechanism - bolting integrity aging management program**
- **Boric acid corrosion - parameters monitored**

- **Standby liquid control ( boiling water reactor ) sodium pentaborate and its effect on stress corrosion cracking**
- **Diesel fuel oil system coating degradation - outer surface of above ground carbon steel tanks**
- **Stress corrosion cracking in stainless steel below 140°F**

### **License Renewal Issue**

- **98-0053 - Failure detection**

## **Item of Interest**

- **Water-based fire protection aging management program should be augmented**

## **GALL - CHAPTER VIII**

### **STEAM AND POWER CONVERSION SYSTEM**

#### **NEI Comments**

- **One-time inspections are not needed with water chemistry program**

**For superheated steam piping where corrosion is negligible -  
inspection not needed**

**Piping other than superheated steam where corrosion is a concern  
- inspection is needed**

- **Flow accelerated corrosion is negligible for superheated steam lines**

## **DRAFT REGULATORY GUIDE FOR LICENSE RENEWAL**

- **DG - 1047 issued 8/96**
  - **endorsed Nuclear Energy Institute (NEI) 95-10, Rev. 0**
  
- **DG - 1104 issued 8/00**
  - **proposes to endorse NEI 95 -10, Rev. 2**

INTRODUCTORY STATEMENT BY THE CHAIRMAN OF THE  
PLANT LICENSE RENEWAL SUBCOMMITTEE  
11545 ROCKVILLE PIKE, ROOM T-2B1  
ROCKVILLE, MARYLAND  
OCTOBER 19, 2000

The meeting will now come to order. This is the first day of a meeting of the ACRS Subcommittee on Plant License Renewal. I am Dr. Mario Bonaca, Chairman of the Subcommittee.

ACRS Members in attendance are: Vice-Chairman Robert Seal, Thomas Kress, Graham Leitch, John Sieber, William Shack, and Robert Uhrig.

The purpose of this meeting is for the Subcommittee to hear presentations by the staff and the Nuclear Energy Institute concerning drafts of the Standard Review Plant (SRP) for license renewal, the Generic Aging Lessons Learned (GALL) report, the Draft Regulatory Guide DG-1104, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," and NEI 95-10, revision 2, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - the License Renewal Rule." The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the full Committee. Mr. Noel Dudley is the Cognizant ACRS Staff Engineer for this meeting.

The rules for participation in today's meeting have been announced as part of the notice of this meeting previously published in the *Federal Register* on October 4, 2000.

A transcript of this meeting is being kept, and will be made available as stated in the Federal Register Notice. It is requested that speakers first identify themselves and speak with sufficient clarity and volume so that they can be readily heard.

We have received no written comments or requests for time to make oral statements from members of the public.

The ACRS reviewed and commented on the staff's review of two license renewal applications. The staff presented the ACRS with an overview of the draft guidance documents during the August 29 - September 1, 2000 ACRS meeting. We discussed the draft guidance documents at the October 5 - 7, 2000 ACRS meeting, and provided the staff with a outline of our concerns.

Today we will hear a more detailed presentation regarding the guidance documents. We will now proceed with the meeting and I call upon Mr. Christopher Grimes, Chief of the License Renewal and Standardization Branch, to begin.