

# **Official Transcript of Proceedings**

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Plant License Renewal Subcommittee

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

PLANT LICENSE RENEWAL SUBCOMMITTEE

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WEDNESDAY,

FEBRUARY 9, 2005

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ROCKVILLE, MARYLAND

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The Subcommittee met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B3, 11545 Rockville Pike, at 1:30 p.m., Mario V. Bonaca, Chairman, presiding.

COMMITTEE MEMBERS PRESENT:

MARIO V. BONACA, Chairman

JOHN J. BARTON, Consultant

GRAHAM M. LEITCH, Consultant

VICTOR H. RANSOM, Member

STEPHEN L. ROSEN, Member

WILLIAM J. SHACK, Member

1        COMMITTEE MEMBERS PRESENT (Continued):

2                    JOHN D. SIEBER, Member

3        ACRS STAFF PRESENT:

4                    CAYATANO SANTOS

5        NRC STAFF PRESENT:

6                    GREGORY V. CRANSTON, NRR

7                    PATRICIA LOUGHEED, Region III

8                    JONATHAN ROWLEY, NRR

9                    P.T. KUO, NRR

10        ALSO PRESENT:

11                    RICHARD GRUMBIR, Indiana Michigan Power Company

12                    ROBERT KALINOWSKI, Indiana Michigan Power  
13                    Company

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C O N T E N T S

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24  
25

PAGE

Introduction, Chairperson Bonaca . . . . . 4

Staff Introduction, P.T. Kuo . . . . . 9

D.C. Cook License Renewal Application:

    Introduction, Richard Grumbir . . . . . 11

    Application Background . . . . . 12

    Description of D.C. Cook . . . . . 12

    Operating History . . . . . 15

    Scoping and Screening, Bob Kalinowski . . 40

    Commitments and Implementation . . . . . 61

SER Overview:

    Introduction, Dr. P.T. Kuo . . . . . 75

    Scoping and Screening Methodology Results 76

    On-site Inspection Results . . . . . 84

Aging Management Review Results, Greg Cranston 107

Time Limited Aging Analyses, Jonathan Rowley . 133

Subcommittee Discussion . . . . . 151

P R O C E E D I N G S

(1:32 p.m.)

CHAIRPERSON BONACA: Okay. The meeting will now come to order.

This is the meeting of the Plant License Renewal Subcommittee. I am Mario Bonaca, Chairman of the Plant License Renewal Subcommittee. ACRS members in attendance are John Sieber, Steve Rosen, Bill Shack, Vic Ransom. ACRS consultants, Graham Leitch and John Barton are also present.

Cayatano Santos of the ACRS staff is the designated federal official for this meeting.

The purpose of the meeting is to discuss the license renewal application for D.C. Cook Units 1 and 2. We will hear presentations from the NRC's Office of Nuclear Reactor Regulation and the representatives of the Indiana Michigan Power Company.

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

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 January 18, 2005. We have received no

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1 written comments or requests for time to make oral  
2 statements from members of the public regarding  
3 today's meeting.

4 A transcript of the meeting is being kept  
5 and will be made available as stated in the Federal  
6 Register notice. Therefore, we request that  
7 participants in this meeting use the microphones  
8 located throughout the meeting room when addressing  
9 the subcommittee.

10 Participants should first identify  
11 themselves and speak with sufficient clarity and  
12 volume so that they can be readily heard.

13 We will now proceed with the meeting, and  
14 I call upon Mr. Kuo of the Office of Nuclear  
15 Regulation to begin.

16 And before I, however, give the floor to  
17 Mr. Kuo, I would like to raise a couple of issues  
18 resulting from the review of the past three  
19 applications, all three of them relying on the audit  
20 process, and some observations it seems to me are more  
21 generic to all three so that they're not specific to  
22 this licensee, and it would not be fair to address  
23 them specifically, you know, in the context.

24 And I would like to raise them now so that  
25 you may have an opportunity during the meeting to

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1 answer those points or simply give you some  
2 information at your convenience anyway.

3 The first observation I had was in the  
4 audit reports that we have received, which we have, I  
5 believe all of us, considered extremely helpful, at  
6 the end of new programs there is always a statement  
7 that says that the program seems appropriate; however,  
8 a decision or determination has not been made yet  
9 because it will be made when details of the program  
10 are in place prior to entering the renewed license.

11 And going to the SER, looking at the same  
12 program, it is not clear if, in fact, some particulars  
13 have been added or not. So at least I personally have  
14 been left with the impression that there are a number  
15 of programs out there for which we have no detail yet,  
16 and that concerns me for a couple of reasons.

17 One is, you know, it's not clear to me  
18 what kind of volume of work is for you and the  
19 licensees. When you get to license renewal, that is  
20 your problem, but there is another problem for us. If  
21 there were many programs undefined, then the ACRS  
22 letter would be somewhat unsupported by a number of  
23 these programs. So that was an issue.

24 MR. BARTON: Also, Mario, there is mention  
25 in there of some programs being implemented just prior

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1 to extended operating period.

2 CHAIRPERSON BONACA: That's right.

3 MR. BARTON: And, you know, the question  
4 is: well, why wait that long?

5 CHAIRPERSON BONACA: That's right.

6 MR. BARTON: That's another issue, I  
7 think, with the subject you're talking about right  
8 now.

9 CHAIRPERSON BONACA: That's right. So I  
10 wanted to bring this up, and, you know, you may have  
11 a different view or more information than I do, I'm  
12 sure.

13 So the second --

14 MR. LEITCH: Just an example of that, to  
15 put some specifics on it, in the D.C. Cook  
16 application, there is a discussion of the wall  
17 thinning program, just as an example, and it says this  
18 is a new, yet to be developed program. It also says  
19 there is no equivalent program in GALL.

20 So there's really nothing there for us to  
21 review. I mean, it's a commitment that a program will  
22 be developed some time in the future, prior to the  
23 period of extended operation for review and approval  
24 by the staff, which is all good stuff, but what I'm  
25 saying is we talk about a wall thinning program.

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1 There really is no program. There's no GALL  
2 equivalent. There's no program presently in  
3 existence. So we're left with basically nothing to  
4 review.

5 That's just an example. I don't mean to  
6 single out D.C. Cook in that regard.

7 CHAIRPERSON BONACA: No. The second  
8 observation I'd like to make is that we're looking at  
9 buried piping inspections, buried tanks, cables, fire  
10 protection. It seems to me that all these programs  
11 literally are being presented by the licensee with  
12 exceptions to the GALL, and the exceptions are always  
13 the same, and there are many, especially on the fire  
14 protection system, on the frequency of inspections,  
15 the mode of inspections, location, whatever, I mean.

16 And, again, now that may be -- and the  
17 staff is accepting these exceptions. To me that says  
18 evidently these exceptions are always acceptable.  
19 They should be in GALL, and we discussed this before  
20 and probably are going to be -- we need to understand  
21 also why there are acceptable because there are big  
22 differences. I mean, why does GALL say it should  
23 inspect this every two months, and the response says  
24 we do it every two years?

25 I mean, there is a difference there.

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1 There has to be some logic behind that, and if changes  
2 to GALL would explain the logic, that's fine, but we  
3 need to understand that because we review a lot of  
4 these applications, and they are coming in with the  
5 same exceptions over time.

6 And these are the two main points I wanted  
7 to make. Okay.

8 DR. KUO: Thank you, Dr. Bonaca.

9 Good afternoon, everybody. For the  
10 record, I'm P.T. Kuo, the Program Director for the  
11 License Renewal and Environmental Impacts Program.

12 Sitting on my right is Jonathan Rowley,  
13 the Project Manager for the application review. To my  
14 far right is Greg Cranston. He is the team leader for  
15 the inspection at D.C. Cook.

16 We have also invited Patricia Loughheed  
17 from Region III. Patricia, she is the inspection  
18 leader for this plant, for this effort at D.C. Cook.

19 In response to, Dr. Bonaca, your  
20 questions, I think we are aware of the first two  
21 questions that you mentioned earlier. The question  
22 about the further submittal or further information,  
23 apparently that is an administrative error, and Greg  
24 will be able to answer during his presentation.

25 And also, the wall thinning program,

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1       apparently there are the wall thinning program and the  
2       FAC program together, and for different purposes.  
3       Greg will answer that, too, during his presentation.

4               As far as the third question about the  
5       buried piping tanks, cables and all of that, I would  
6       come back to you later on after the break. I want to  
7       make sure of certain things before I answer it. So  
8       that's that.

9               CHAIRPERSON BONACA: Well, realize we  
10       discussed already the issue of inspections of, for  
11       example, the bottom of tanks, volumetric inspections,  
12       and I remember the early applications we insisted for  
13       having volumetric inspections.

14              Now, the exception is being made, and  
15       oftentimes it is made on the basis of an inspection  
16       that was performed ten years ago and showed the region  
17       was fine.

18              DR. KUO: Right.

19              CHAIRPERSON BONACA: So my question is:  
20       why would an inspection performed ten years ago be  
21       good to predict what will happen 30 years from now?  
22       I mean, there may be there is a very good reason for  
23       it and I could even accept that reason.

24              DR. KUO: Yeah.

25              CHAIRPERSON BONACA: It's just simply we

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1 are left without an understanding of why in some  
2 cases it is acceptable and in some cases it is not.

3 DR. KUO: Yeah. I fully understand the  
4 question. In some cases we made plant specific  
5 decisions based on the data that we have. We have  
6 looked at it, but one thing that I could say is that  
7 the staff has been very consistent in applying these  
8 positions. So there might be variations because of  
9 certain reasons. So I just want to check that before  
10 I answer it.

11 CHAIRPERSON BONACA: I appreciate it.  
12 Thank you.

13 DR. KUO: Sure. Thanks.

14 And with that, I will call upon the  
15 licensee or the applicant in this case to make the  
16 presentation first and then the staff will follow with  
17 our application.

18 MR. GRUMBIR: Good afternoon. Richard  
19 Grumbir from Indian Michigan Power Company. With me  
20 as well is Bob Kalinowski. He's the technical lead  
21 for our license renewal effort. I'm the project  
22 manager, and I've brought along a number of our staff  
23 members that have supported us, including members from  
24 Areva and Entergy.

25 What I want to talk today is about the

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1 application, in general; provide a brief description  
2 of the Cook Nuclear Plant; some recent operating  
3 experiences. Bob will talk about scoping and  
4 screening and aging management programs; and then I'll  
5 close out with implementation discussions.

6 The application was submitted on October  
7 the 31st. Our original license expiration, we have  
8 the dates up here, and as was discussed earlier in the  
9 meeting, the Cook plant is a third of the pilot  
10 applications that went through this new process and  
11 utilized extensive use of past precedents, the GALL  
12 consistency audits.

13 We found that the review was very  
14 thorough. There were approximately 200 RAIs.

15 MR. BARTON: To me that doesn't  
16 necessarily mean a thorough review. It could mean a  
17 poor application.

18 MR. GRUMBIR: I understand. I think that  
19 just the positive interaction and the dialogue that we  
20 had with the consistency audit and the availability of  
21 on-site documentation was very positive.

22 We are a Westinghouse four-loop PWR using  
23 an ice condenser containment. The architect-engineer  
24 was actually AEP, the owning company. Our rated  
25 thermal power is 3304 and 3468 for Units 1 and 2, with

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1 the net electrical as indicated.

2 We do have four diesel generators, two for  
3 each unit, and our ultimate heat sink is the Lake  
4 Michigan, and we utilize an 18-month fuel cycle.

5 MR. LEITCH: Essentially I had a question  
6 about the difference in power rating. Were they  
7 different from the get-go or has one of the units been  
8 up-rated and the other not or how did that work?

9 MR. GRUMBIR: I think both units have been  
10 up-rated. I'm not sure about the very specific.  
11 Perhaps Paul or Joel can respond to what the  
12 differences are.

13 MR. SCHOEPF: Paul Schoepf from Indiana  
14 Michigan Power.

15 The differences are related to the fuel.  
16 The initial license power was different. Unit 1 uses  
17 15 by 15 fuel, and Unit 2 is 17 by 17. So the  
18 difference was from day one initial operating license.  
19 I believe Unit 1 was initially 3250 and Unit 2 was  
20 3411 megawatts thermal initially.

21 MR. LEITCH: So the hardware in the plant,  
22 they're basically identical plants then? I didn't see  
23 any difference in the application comparing what was  
24 in scope for Unit 1 versus Unit 2. Are they basically  
25 identical units?

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1 MR. SIEBER: Well, turbine generator sets  
2 are different.

3 MR. SCHOEPF: That's correct.

4 MR. GRUMBIR: They're similar. The Unit  
5 1 has a G.E. turbine generator. Unit 2 is Brown  
6 Boveri. So the secondary sides are somewhat different  
7 as a result of that, but the primary side, with the  
8 exception of the differences in the reactors and fuel  
9 are --

10 MR. LEITCH: I was referring to the in-  
11 scope equipment in the scope of license renewal. The  
12 plants are virtually identical as far as the nuclear  
13 steam supply is concerned?

14 MR. GRUMBIR: Yes.

15 MR. SCHOEPF: Virtually.

16 MR. SIEBER: Yeah.

17 MR. GRUMBIR: There are some items where  
18 there was a difference, and we did identify those. I  
19 think mainly in the steam generators.

20 MR. KALINOWSKI: Yes, that is correct.  
21 You will see it in the feedwater nozzles. One of them  
22 is lined and the other one is not.

23 CHAIRPERSON BONACA: It's a good question  
24 because, I mean, it's surprising that you would keep  
25 two different design bases there for the different

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1 plants as far as rated power for, you know, accident  
2 analysis, all that kind of stuff, when you could  
3 license easily one 17 by 17, I guess. Anyway.

4 MR. SIEBER: What are the sizes of the  
5 diesels?

6 MR. KALINOWSKI: They are 3,500 kilowatts.

7 MR. SIEBER: Okay.

8 MR. GRUMBIR: Some of our recent operating  
9 experience, and I think some of this is common  
10 knowledge, but I'll just run through. We had a design  
11 basis recovery effort from September '97 to December.  
12 This was an opportunity for us to go back and look at  
13 our licensing basis or design and how we met in with  
14 our actual plant configuration.

15 It included us going through and doing  
16 some detailed assessments of all our programs, all the  
17 different departments and looking at functional area  
18 health. That provided a lot of improvements to the  
19 station that we utilized during our license renewal  
20 effort to build upon.

21 MR. LEITCH: Richard, as I recall that  
22 design basis recovery effort, there were a large  
23 number of safety related systems that required  
24 basically a design basis reconstitution during that  
25 two and a half year period, and I think --

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1 MR. SIEBER: That's right.

2 MR. LEITCH: -- some of those were  
3 required for restart.

4 MR. GRUMBIR: That's correct.

5 MR. LEITCH: But there were a large number  
6 of others less safety significant perhaps that were  
7 allowed to be completed after restart had occurred,  
8 and I think that was a multi-year effort.

9 My question is basically: has that effort  
10 now been completed?

11 MR. GRUMBIR: Yes, that was. When we  
12 originally laid out the plan, we identified a  
13 mechanism to identify what needed to be performed  
14 prior to restart and what could be performed after  
15 restart, and utilizing that criteria, we did do some  
16 activities after restart.

17 We did pursue through all of those issues.  
18 There may be one or two, and perhaps Paul or Joel can  
19 respond to this, one or two ODEs that might be  
20 outstanding at this point. I don't have the  
21 particulars on that, but -- go ahead, Paul.

22 MR. SCHOEPPF: The one issue that would  
23 probably be of interest is one operability evaluation  
24 associated with the 4 kV breakers. They are over-  
25 dutied and we're making plans to replace them in the

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1 next set of outages, but that's an issue that we tried  
2 to resolve analytically and convinced ourselves that  
3 there was not an analytical solution to that, and the  
4 right answer was to replace the breakers, and we're  
5 now planning for that.

6 It's more of a --

7 MR. LEITCH: And the issue is the rating  
8 of the breakers is --

9 MR. SCHOEPF: The rating of the breaker  
10 for a bolted vault very close to the breaker, they  
11 would be over-dutied, and that's limited by single  
12 failure scenarios. Basically for a fault you would  
13 lose that bus, and it would be isolated at the bus  
14 supply breaker.

15 Again, the main issue besides that is a  
16 personal safety issue. If we should have a failure  
17 the breakers would not be rated for that, and you  
18 could have a catastrophic failure.

19 MR. LEITCH: And you've done an  
20 operability evaluation that indicates that the present  
21 situation is acceptable until you replace the  
22 breakers?

23 MR. SCHOEPF: Yes, we have, and again, the  
24 main safety consideration is that that would be  
25 limited to you'd lose a single train basically. The

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1 fault would be isolated at the bus feeder breaker and  
2 isolate that single train, and that's the basis for  
3 the safety significance for current operation, and  
4 that has been reviewed by the resident inspectors and  
5 concurred with.

6 MR. SIEBER: The lack of rating is  
7 interrupting capability, I presume, which means that  
8 if it opens it's opened forever.

9 MR. SCHOEPF: Correct.

10 MR. SIEBER: Okay.

11 MR. SCHOEPF: Yeah, they basically  
12 couldn't --

13 MR. SIEBER: So it's a performance  
14 function and in the process commits suicide.

15 MR. LEITCH: Just a curiosity question in  
16 the four kV area. This may be a little off the  
17 target, but are you familiar with a recent industry  
18 problem where there's been a fault, where a potential  
19 fault in metering circuitry could prevent the proper  
20 operation? I guess reclosure of four kV breakers,  
21 that issue seems to be a very current issue recurring  
22 in the industry over the past couple of weeks. I  
23 don't know if you're familiar with that.

24 My basic question is whether you have that  
25 configuration or not.

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1 MR. SCHOEPF: We do not have that  
2 configuration. I forget the plant. I believe it was  
3 one of the southern plants, but we reviewed and did  
4 not have that configuration.

5 MR. LEITCH: Okay. Thank you.

6 MR. GRUMBIR: Okay. In 2001 and 2003, we  
7 had some challenges to our ultimate heat sink. The  
8 two items that I have up here, they were identified as  
9 minor safety significance. However, we did take some  
10 rather extensive corrective actions to prevent  
11 recurrence, such as our traveling water screen system  
12 that I think some of you may have seen when you came  
13 out to visit our site.

14 We put in a fish deterrent system, which  
15 is also state of the art technology. That creates a  
16 sound wave to deter the fish from coming towards the  
17 intake. We utilize that during high season.

18 And then we've also added some operational  
19 screen house vulnerability procedures so that as some  
20 of the potential conditions are worse, then we have a  
21 little bit more attention applied to that, as well as  
22 some maintenance practices on our ESW strainers.

23 Since that time, we've been making  
24 continuous improvements. Unit 1 has been operating  
25 for 309 days since April, and Unit 2 has been

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1 operating for 73 days since completing the refueling  
2 outage and a subsequent maintenance outage about two  
3 weeks after the refueling outage back in November,  
4 and --

5 MR. BARTON: What was the maintenance  
6 outage right after the refueling outage all about?

7 MR. GRUMBIR: It was related to on our  
8 primary side pressurizer manway. We had some leakage  
9 that we were monitoring, but we decided that it was  
10 better to power down and take care of that.

11 MR. BARTON: That didn't show up during a  
12 hydro coming out of the outage?

13 MR. GRUMBIR: No, it did not.

14 MR. SIEBER: The gasket there is not in  
15 scope for license renewal, right?

16 MR. GRUMBIR: Correct, and we had some  
17 issues --

18 MR. SIEBER: What's the basis of that? It  
19 seems to me that's a pressure boundary, and so it  
20 struck me as odd that it wasn't in scope.

21 MR. GRUMBIR: I think that's a  
22 consumable.

23 MR. KALINOWSKI: Yes, it is a consumable.  
24 It's like a short-lived odd component. Joel, how  
25 often do we replace those?

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1 MR. GEBBIE: Joel Gebbie, Indiana Michigan  
2 Power.

3 Right now we have put a preventive  
4 maintenance task in place to replace those every eight  
5 years.

6 MR. SIEBER: But in other plants that's  
7 not necessarily a practice, right?

8 PARTICIPANT: Right.

9 MR. GRUMBIR: I don't think I can answer  
10 what other plants do.

11 MR. SIEBER: Okay. I accept that.

12 Now, one of the things that I was curious  
13 about in your list, you spent a fair amount of time  
14 rebuilding the ice condenser part of your  
15 containments. In what time frame does that fit in  
16 this list?

17 MR. GRUMBIR: That was during the design  
18 basis recovery

19 MR. SIEBER: Okay. So you were done in  
20 2000 with that?

21 MR. GRUMBIR: Correct.

22 MR. SIEBER: And so there was a lot to  
23 learn about aging management with respect to the  
24 baskets and the frames and everything that's in there?

25 MR. GRUMBIR: General maintenance and how

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1 much attention we applied to them.

2 MR. SIEBER: How much you need to apply.

3 MR. GRUMBIR: Correct.

4 MR. SIEBER: As opposed to how much you  
5 did apply, right?

6 MR. GRUMBIR: Right.

7 MR. SIEBER: Okay.

8 MR. LEITCH: As a follow-up to Jack's  
9 question about the ice condensers, there's a lot of  
10 hardware associated with the ice condensers that I  
11 didn't really see included in the scope, and I wonder  
12 to what extent you've looked at things.

13 I mean, this is one of the first, I think  
14 the first ice condenser plant that we've seen for  
15 license renewal, and I wonder what extent you've  
16 looked at things like the door seals and so forth,  
17 which were replaced in 2000 or during that outage.

18 Did that give you any insights about with  
19 what periodicity those door seals, for example, need  
20 to be replaced? Did you look at I think there's a  
21 water soluble paper seal-over drain? Is that in the  
22 scope of license renewal?

23 I guess basically my question is: did you  
24 take a detailed look at the ice condensers and see  
25 which of those components, which of those

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1 subcomponents needed to be included in the scope of  
2 license renewal?

3 MR. GRUMBIR: Bob.

4 MR. KALINOWSKI: I would say yes we did.  
5 Our current activities are adequate to maintain a  
6 period of extended operation. To get a flavor for  
7 that, there were some issues during the restart with  
8 regard to some of the seals like you are currently  
9 talking about, and we had some bypass area problems,  
10 and those were incorporated into the ice condenser  
11 maintenance program, and those will be continued  
12 throughout the period of extended operations.

13 As a result of the license renewal effort,  
14 there's nothing, unless, Reza, you can think of  
15 anything that we've added; there wasn't anything that  
16 we added beyond what we were currently doing with  
17 regard to maintenance, but a lot of those issues did  
18 come up and were resolved during our extended restart  
19 outage.

20 MR. ROSEN: Do you have a specific ice  
21 condenser maintenance aging management program?

22 MR. KALINOWSKI: Correct. We do. It's a  
23 combination of our tech specs and also the maintenance  
24 of our procedures and engineering procedures.

25 MR. SIEBER: The application and the SER

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1 are a little sketchy on what you're doing with the ice  
2 condenser, however. You know, it's listed as part of  
3 the structural components, you know, like it was a  
4 civil work, but because of that, a lot of the movable  
5 parts and descriptions of individual maintenance isn't  
6 there. So it's kind of hard to tell what you're  
7 doing.

8 Do you agree, John?

9 MR. BARTON: I agree, yeah.

10 MR. GRUMBIR: Would you like us to expand  
11 on that?

12 MR. SIEBER: Well, I think I've read  
13 through it, and I understand where you've been. It's  
14 just that I need to study in a little bit more detail  
15 to make sure that you're actually hitting all of the  
16 elements that turned out to be defective, which were  
17 discovered during this rebuild project that you went  
18 through at the end of the 20th century, so to speak.

19 MR. BARTON: See, part of the problem of  
20 reviewing this application is lack of specificity on  
21 components, and I think that's what Jack's hitting on  
22 now. There are too many generic components mentioned  
23 so that you really don't know the details of what  
24 you're looking at in specific systems, and I think  
25 that's part of the problem of this whole review.

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1 MR. ROSEN: Because of the uniqueness of  
2 this application in the sense that it's the first ice  
3 condenser we've looked at for renewal, maybe take a  
4 note that the full committee might be a place where  
5 you could highlight the kinds of things that are  
6 included in the program now specifically for the ice  
7 condenser.

8 MR. SIEBER: That's a good idea.

9 MR. GRUMBIR: In regard to the first ice  
10 condenser plant, unless Mark can tell me if I'm  
11 incorrect here, but wasn't McGuire? Didn't they go  
12 through the license renewal effort already? And they  
13 are an ice condenser plant.

14 MR. ROSEN: Okay. I guess we didn't have  
15 this focus on the details or I don't recall the focus  
16 on the details. That would be helpful.

17 MR. SIEBER: Yeah.

18 MR. GRUMBIR: Okay.

19 MR. SIEBER: I don't think McGuire had  
20 quite the operating history that Cook had as far as  
21 ice condenser availability, so to speak, and so  
22 because of that, our attention is more focused on what  
23 you're saying that you will do to make sure that it's  
24 operable in the future.

25 MR. GRUMBIR: Okay. The last bullet, in

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1 2004 we did have a combined capacity factor of 92  
2 percent for the two units.

3 Continuing with the concept of continuous  
4 improvement, as you can see, the third quarter of  
5 2002, we were in the regulatory response column and in  
6 the degraded cornerstone column, and we have been  
7 making significant efforts towards improving that.

8 And in 2005, Unit 1 entered into the  
9 licensee response column, and Unit 2 is in the  
10 regulatory response column, and our PI&R cross-cutting  
11 issue was closed in July of 2004.

12 MR. LEITCH: Are there any recent  
13 inspection findings greater than green?

14 MR. GRUMBIR: Any recent inspection  
15 findings?

16 MR. LEITCH: Greater than green.

17 MR. GRUMBIR: Like white?

18 MR. LEITCH: Yes.

19 MR. GRUMBIR: The one that I'm thinking of  
20 was in regards to some radiological transportation  
21 issue. I think it's 12 months old now, Michael.

22 MR. SIEBER: This is a shipment?

23 MR. GRUMBIR: Yes.

24 MR. SCARPELLO: Michael Scarpello, Indiana  
25 Michigan Power.

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1 Yes, we have an issue in the public  
2 radiation safety cornerstone finding for Department of  
3 Transportation issue where we transported some  
4 contaminated material where the dose rate at the  
5 exterior of the container was in excess of DOT  
6 requirements. We had that since January of 2004.

7 So at the end of the fourth quarter this  
8 year, based on the 95-001 inspection of that white  
9 finding, it would have come off of our action matrix.

10 MR. LEITCH: And that's the only finding  
11 greater than green?

12 MR. SCARPELLO: That is correct.

13 MR. LEITCH: And I'm still just a little  
14 confused on the status of the performance indicators.  
15 Could you just go back to the previous one?

16 So what is that? Unit 2 is still in the  
17 regulatory response column?

18 MR. GRUMBIR: That is correct.

19 MR. SCARPELLO: We have one white PI.

20 MR. LEITCH: Could you give us some  
21 information about what's driving that? What kinds of  
22 things are driving that into the regulatory response  
23 column?

24 MR. SCARPELLO: I'll handle that, Richard.

25 MR. GRUMBIR: Sure.

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1 MR. SCARPELLO: We currently have one  
2 white PI under the initiating events cornerstone for  
3 scrams with loss of normal heat removal.

4 MR. LEITCH: Okay. Does Unit 1 have a  
5 similar problem that just hasn't reached that level  
6 yet?

7 MR. SCARPELLO: No, and actually as part  
8 of the 95-001 review that we did for that, we  
9 identified the root cause of that problem. It had to  
10 do with us -- the problem we had was closing MSIVs  
11 following a scram. We revised EOPs to throttle back  
12 aux feedwater earlier in the trip sequence, and that  
13 has, based on operating experience, resolved that  
14 issue.

15 MR. LEITCH: So it was not specifically  
16 the number of scrams, but rather the loss of scrams  
17 with loss of normal heat removal that was the issue;  
18 is that it?

19 MR. SCARPELLO: It was actually both at  
20 one time for Unit 2. We actually went across the  
21 green-white threshold for scrams for 7,000 critical  
22 hours and scrams loss of normal heat removal and had  
23 a 95-002 inspection as a result.

24 MR. LEITCH: Okay. Thank you.

25 MR. SCARPELLO: You're welcome.

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1 MR. GRUMBIR: This slide represents some  
2 of the significant plant improvements that we've  
3 either completed or are in the progress of or have  
4 under future evaluation. One of our recent tasks is  
5 we've pulled together a nuclear asset management plan  
6 that takes us through 2037 to try to identify some of  
7 the major components and major activities that we need  
8 to be focused on, and actually the draft is including  
9 extensions beyond the 2037 in anticipation of possibly  
10 coming back for a second license renewal after the  
11 first one.

12 Some of the significant improvements we've  
13 made, such as steam generator replacements, an  
14 Appendix K measure of uncertainty up-rate, reserve aux  
15 transformers which have an auto load-tap changing  
16 feature, the traveling water screens that I alluded to  
17 earlier.

18 We're in the process of converting two  
19 improved tech specs. We are in the design phase of  
20 installing two supplemental diesel generators.  
21 Actually it is still in -- the design is still in  
22 process. So we're not certain if it's going to be two  
23 or two per unit.

24 We're also --

25 CHAIRPERSON BONACA: What's the purpose of

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1 these diesel generators?

2 MR. GRUMBIR: It provides us with some  
3 redundancy, and it also helps us so that we can --  
4 we've also requested an extension of our allowable  
5 outage time for our diesel generators to 14 days so  
6 that we can do more preventive maintenance to improve  
7 their reliability.

8 CHAIRPERSON BONACA: Okay.

9 MR. SIEBER: These will be safety grade  
10 diesels?

11 MR. GRUMBIR: These are not going to be  
12 safety grade.

13 We also are pursuing reactor head  
14 replacement for 2006-2007. We already have the head.  
15 It has been poured, and I believe it's in France being  
16 worked on.

17 Unit 1 turbine rotor replacement is  
18 another significant effort for '06, and we're also  
19 going to our INDUS Passport, which is a computerized,  
20 essentially a paperless process.

21 And for the future, we're looking at --

22 MR. ROSEN: A paperless process for?

23 MR. GRUMBIR: I'm sorry?

24 MR. ROSEN: A paperless process for?

25 MR. GRUMBIR: Corrective action process.

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1 The engineering modification development, action  
2 tracking, work management in the field.

3 MR. SIEBER: Commitment management.

4 MR. GRUMBIR: Commitment management.

5 MR. SIEBER: The steam generators that are  
6 in Unit 2 I take it are Alloy 600.

7 MR. GRUMBIR: No, they are Alloy 690,  
8 thermally treated.

9 MR. SIEBER: They're pretty old. How many  
10 tubes are plugged?

11 MR. GRUMBIR: Somewhere in the  
12 neighborhood -- I'll have to get Carl Lane to give a  
13 specific number, but it's a very small number,  
14 somewhere at ten or 15, but we'll let Carl answer that  
15 specifically.

16 MR. LANE: Carl Lane, Indiana Michigan  
17 Power.

18 In Unit 2, we have 16 tubes plugged. In  
19 Unit 1 we have four.

20 MR. SIEBER: Okay, and these are broached  
21 tube support plate holes as opposed to drilled holes?

22 MR. GRUMBIR: I'm sorry? I don't  
23 understand.

24 DR. SHACK: Tube support structure.

25 MR. SIEBER: Yeah. Is it a broached hole

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1 with lands and open spaces or just a drilled hole?

2 MR. GRUMBIR: Maybe I should let Paul  
3 finish up with that.

4 MR. SCHOEPF: Paul Schoepf, Indiana  
5 Michigan Power.

6 I believe you're requesting at the support  
7 plates. The openings for the tubes have actually flow  
8 channels to sweep contaminants out of the support  
9 plate areas.

10 MR. SIEBER: Okay. So they're broached.  
11 Thank you.

12 MR. LEITCH: Do you plan to request a  
13 power up-rate on Unit 1 at the time of the turbine  
14 rotor replacement?

15 MR. GRUMBIR: Not at the time of the  
16 turbine rotor replacement, but there are some  
17 discussions internally of pursuing a stretch power up-  
18 rate for both units, but it is in the conceptual phase  
19 at this point.

20 MR. LEITCH: A question about the addition  
21 of the non-safety grade diesels. Going back to the  
22 isolation condenser -- the ice condenser.

23 MR. GRUMBIR: Okay.

24 MR. LEITCH: I'm drawing a blank.

25 I assume you have containment igniters.

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1 MR. GRUMBIR: Yes.

2 MR. LEITCH: And there was an issue that  
3 we dealt with recently regarding the power supply to  
4 those containment igniters on station blackout.

5 MR. GRUMBIR: GSI-191?

6 MR. LEITCH: Yeah, that sounds like the  
7 right number, yeah. What is the status of that  
8 matter? Do you have back-up power supply to those  
9 igniters?

10 MR. GRUMBIR: I don't think we have back-  
11 up power supply to those igniters as part of the  
12 resolution of 191, which is still in discussion phase.  
13 The supplemental diesels will be sized adequately so  
14 that if we do need to or do desire to go ahead and get  
15 a back-up power supply we can do that.

16 MR. LEITCH: Yeah, that's what I was  
17 wondering. That seems like an opportunity to --

18 MR. GRUMBIR: Yes.

19 MR. LEITCH: -- resolve that problem.

20 MR. GRUMBIR: Yes, and in addition to  
21 that, during the environmental side for license  
22 renewal where we look at severe accident mitigation  
23 alternatives, some of those that were cost beneficial,  
24 but not aging related, are also going to be addressed  
25 by the supplemental diesels.

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1 MR. LEITCH: Good.

2 MR. GRUMBIR: Under the heading of future,  
3 just some long-term plans that also are indicative of  
4 a significant financial obligation that the company  
5 has towards the power plant.

6 CHAIRPERSON BONACA: I want to thank you  
7 for this slide. I mean, we've asked applicants to  
8 provide it oftentimes, and this is quite a complete  
9 picture of what you have in mind, and I think it's  
10 important for the committee to be able to see these  
11 initiatives.

12 MR. GRUMBIR: You're welcome.

13 Some industry related issues, such as  
14 reactor head inspections. For Unit 1 we did a bare  
15 metal visual above head inspection. No leaks or boron  
16 deposits were identified.

17 For Unit 2, in this recent refueling  
18 outage, we had a penetration weld repair that was  
19 performed.

20 CHAIRPERSON BONACA: These are low  
21 susceptibility plants?

22 MR. GRUMBIR: Actually Unit 1 is a medium  
23 susceptibility plant and Unit 2 is a high  
24 susceptibility plant.

25 CHAIRPERSON BONACA: Oh. Okay.

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1 MR. GRUMBIR: And as I indicated earlier,  
2 we do have plans for head replacement that we  
3 initiated, I believe in the 2002 time frame.

4 DR. SHACK: On your penetration weld  
5 repair, did you have a leak or you found that with dye  
6 penetrant?

7 MR. GRUMBIR: We found that with dye  
8 penetrant. It was a rounded and very shallow flaw  
9 indication, and we believe that was part of the  
10 original manufacturing process.

11 DR. SHACK: And the repair was?

12 MR. GRUMBIR: That would be something I'd  
13 have to defer to Joel. He can articulate that very  
14 well.

15 MR. GEBBIE: Joe Gebbie, Indiana Michigan  
16 Power.

17 We performed a weld overlay repair of  
18 those penetrations. It's developed by Westinghouse  
19 and documented in WCAP.

20 DR. SHACK: So it's just that one  
21 penetration you overlaid?

22 MR. GEBBIE: Actually it was two  
23 penetrations, and we performed the same overlay repair  
24 on both penetrations.

25 MR. GRUMBIR: On the bottom mounted

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1 instrumentation, we've performed inspections and no  
2 indications were found.

3 And with the flow accelerated corrosion,  
4 with the Japanese event where there were high flow  
5 accelerated corrosion rates found downstream of  
6 orifices, this was actually an OE that came out back  
7 in 1999. During that time, we went in and did some  
8 additional inspections and determined that our  
9 prediction model was working properly.

10 When this event surfaced in 2004, we went  
11 back and took a look at that again in terms of making  
12 sure that the guidance was there. The significant  
13 difference between us and the Japanese plant was the  
14 use of the CHECWORKS software and using that as a  
15 prediction tool for identifying the wear locations.

16 MR. LEITCH: It seems to me -- and I'm a  
17 little confused in tracing my way through the  
18 documents -- that there was a bit of a disagreement  
19 with the staff over what the criteria should be for  
20 expanding the sample, that is, whether it was, I  
21 guess, the GALL set 60 percent of -- I don't know.  
22 One said 60 percent of the design and the other  
23 said --

24 MR. GRUMBIR: Would you like me to --

25 MR. LEITCH: -- 60 percent of expected.

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1       Could you get my head straight on what the resolution  
2       of that matter was finally or is it resolved?

3               MR. SIEBER:  A projection of what the  
4       thickness would be by the time of the next inspection,  
5       and I think that's the difference between the  
6       criteria, but you can explain that.

7               MR. GRUMBIR:  Let me try and explain that.

8               The GALL had indicated that an expansion  
9       of the scope of inspections was necessary if you found  
10      wear that was greater than predicted wear.  Our  
11      program, which is consistent with EPRI guidance and  
12      industry general practice is that if you take your  
13      measurements and you find wear greater than or such  
14      that you reach the 60 percent or somewhere limit, then  
15      you needed to expand your sample scope.

16              We have since responded to the staff's  
17      question on that subject with additional information  
18      showing why an exception to GALL is appropriate, and  
19      the staff has found that acceptable.  But the key  
20      thing is the mechanism that we're using is consistent  
21      with industry best practices.

22              MR. LEITCH:  And that method, say again,  
23      is 60 percent of the design?  Is that?

24              MR. GRUMBIR:  It's either 60 percent of  
25      the design or some minimum allowable wall thickness.

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1 MR. LEITCH: Okay.

2 MR. GRUMBIR: And if you exceed that, then  
3 you need to expand your sample criteria.

4 MR. LEITCH: And I guess a comment --

5 MR. SIEBER: You can also do a repair,  
6 right?

7 MR. GRUMBIR: Correct.

8 MR. LEITCH: Yeah, right, yeah.

9 MR. GRUMBIR: Correct.

10 MR. LEITCH: And I guess this may be a  
11 comment for the staff, I guess, as far as what we were  
12 talking about earlier. If this is an acceptable  
13 approach, is it going to be acceptable for everyone,  
14 and if so, why don't we change GALL? And I guess  
15 that's an example of that issue that we were  
16 discussing at the beginning of the meeting.

17 DR. KUO: Yes, the staff will address this  
18 issue. Basically what we are having here is one  
19 criterion which is a threshold kind of measurement,  
20 and the GALL is a minimum, min wall requirement.  
21 Okay?

22 So we had some discussion there with the  
23 applicant, but in no case, in no case that the wall  
24 thickness shall be less than min wall. That's our  
25 bottom line. So they have a threshold criterion, 60

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1 percent or whatever, but in no case it should be lower  
2 than min wall thickness.

3 DR. SHACK: But when you find you under  
4 predict, then presumably you go back and you correct  
5 other predictions to account for that under  
6 prediction. What happens if one of those predictions  
7 then says it's min wall? I presume you go and inspect  
8 that one.

9 MR. GRUMBIR: I believe that's correct.  
10 I'd have to defer that to Carl, but he's nodding his  
11 head saying yes.

12 DR. SHACK: But you wouldn't then trigger  
13 an expansion. If you found one where you went back,  
14 you change your prediction and went back. You check  
15 that one because it was predicted to be greater than  
16 60 percent and you found it. Would you then expand?

17 MR. LANE: Our program is set up to where  
18 if we have to expand, we will continue to expand until  
19 we've found all thinning. So if we would miss the  
20 first criterion and have to expand, we get into the  
21 second one and it's worn more than the first one, we  
22 would continue to expand it until we're sure that we  
23 have found the thinning.

24 DR. SHACK: No, but this is a case where  
25 you've under predicted. You go back and you change

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1 the predictions. You've now found one that says it's  
2 over. You check that one and it is, indeed, over.  
3 Would that then generate a new round or an expansion  
4 of inspections?

5 MR. LANE: It very well could, yes.

6 DR. SHACK: Could or it would?

7 MR. LANE: Well, the possibility is there  
8 for that to happen. So, yes, it would.

9 DR. SHACK: If that did happen, if you  
10 found one that exceeded it, it would expand.

11 MR. GRUMBIR: Any other questions on this  
12 before I move on?

13 (No response.)

14 MR. GRUMBIR: With that I'd like to turn  
15 it over to Bob to discuss the scoping and screening.

16 MR. KALINOWSKI: Thanks.

17 The scoping and screening for the Cook  
18 application was consistent with past applicants for  
19 use of guidance contained NEI 95-10, Rev. 4. For the  
20 10 CFR 54.4(a)(2) issue, we used a conservative spaces  
21 approach for the non-safety to safety related spray  
22 interaction, and this was also consistent with the  
23 industry guidance at the time, which has been  
24 incorporated in the NEI 95-10, Rev. 5.

25 And what this says basically is that if a

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1 non-safety related piece of pipe or equipment is in a  
2 room that contains safety related equipment, that all  
3 of the non-safety related equipment and pipe in that  
4 room is also installed.

5 Also, we did not exclude any non-safety  
6 related equipment based on its proximity from safety  
7 related equipment as some of the more recent  
8 applicants have.

9 MR. LEITCH: Can I ask a question about I  
10 guess in the scoping and screening inspection report,  
11 on page 6 it talks about all components in an area of  
12 the plant containing safety related equipment were  
13 considered to be in scope.

14 MR. KALINOWSKI: That is correct.

15 MR. LEITCH: Now, when you say an area of  
16 the plant, I'm not sure whether I'm getting the right  
17 picture or not. I think you said a room just a moment  
18 ago. So an area is not defined as so many feet away  
19 from safety related equipment, but rather some  
20 physical wall or door or something.

21 MR. KALINOWSKI: Yes.

22 MR. LEITCH: So if I have safety related  
23 equipment in a room, the other equipment that's in  
24 that room that could impact the operation of the  
25 safety related equipment is also considered in the

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1 scope.

2 MR. KALINOWSKI: That is correct.

3 MR. LEITCH: And everything that's in that  
4 room.

5 MR. KALINOWSKI: Everything that's in that  
6 room, the general hallway. Anything that's in the  
7 hallway is in the scope.

8 MR. LEITCH: Yeah. So when you say area  
9 or at least when the inspection report said area, it  
10 made me start thinking, well, maybe we were talking  
11 about ten feet away or no matter how big the room is,  
12 if it's in a room, it's in scope.

13 MR. KALINOWSKI: Correct. It's bound by  
14 the walls.

15 MR. LEITCH: Okay. Yeah, good. Thank  
16 you.

17 MR. KALINOWSKI: Our ARMS are structured  
18 to align with GALL. There is approximately 47  
19 mechanical systems, and GALL groups these into four  
20 groups and has numerous subgroups. They don't have  
21 the same names as we have at Cook.

22 So, for example, the GALL does not have a  
23 nuclear sampling system. So we have to take that  
24 system, be an interface with numerous systems, and  
25 break off, for example, the RCS portion of the

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1 sampling system and group that with the RSCS; the same  
2 thing with the steam generator blow-down. We had to  
3 break that off and group it with the steam generator  
4 blow-down system.

5 Another example is the containment  
6 isolation. We have various containment isolation  
7 portions and, for example, the nonessential service  
8 water. We stripped that out and put it with the  
9 containment isolation system to make sure everything  
10 aligned with GALL.

11 We conservatively identified exceptions to  
12 GALL. As an example, GALL uses a three micron filter  
13 whereas CMP uses a .8 micron filter for diesel fuel  
14 monitoring, and we call that out as an exception.

15 We also took a conservative approach to  
16 the enhancements. Many of our enhancements are  
17 actually done, but we wanted to make sure they were  
18 adequately proceduralized to make sure we wouldn't  
19 lose these as we move forward into the future.

20 We also did provide a past precedent's  
21 review to the audit team when they came out for their  
22 AMP audit, and that included both programs and the  
23 Section 3 tables, and we cited programs from previous  
24 applicants that managed the same material and  
25 environment combinations.

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1           As an example of that, we had talked about  
2           the isometric program. We took that of McGuire and  
3           borrowed their ten attributes out of their SER and  
4           compared that to the Cook program, and they did match  
5           up very well.

6           With regard to the Table 3 comparison, we  
7           took the material of our combinations and compared  
8           those. So, for example, copper and oil at ANO was  
9           managed via the oil analysis program, and it is also  
10          managed at Cook via the same manner. In all we ended  
11          up with 46 CMP programs and 16 plant specific  
12          programs.

13                   And this is --

14           MR. LEITCH: There was a scoping and  
15          screening inspection that said that at the time of  
16          that inspection the applicant had not physically  
17          located the anchor points. I'm talking now about  
18          scoping, and I guess the anchor points define in some  
19          cases the boundary of the scoping. So it's difficult  
20          for me to tell. How would you know how much to put in  
21          scope if you didn't identify the anchor points?

22           MR. KALINOWSKI: Okay. Here again, we  
23          will end up having more in scope with regard to  
24          supports than need be. We took and looked at our  
25          major components and have an analysis that shows where

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1 that boundary ends with regards to the major  
2 components. So we assumed that from the safety to the  
3 non-safety interface out to the first major component  
4 was all in scope, and we did identify those major  
5 components, and I believe it may even subsequent to  
6 the scoping and inspection. So we have bound that  
7 whole issue where we've taken it from the non-safety  
8 to safety related interface to the major components.

9 Those major components that act as a  
10 support, we know which ones those are, and those that  
11 don't act as a support, it goes from the non-safety  
12 related interface to that major component that's not  
13 in the scope.

14 So, again, we've got more in scope than  
15 need be, but we feel we are conservative with regard  
16 to that.

17 MR. LEITCH: Okay. Another question  
18 concerning the AFW piping connected to the condensate  
19 storage tank. The inspectors evidently found that was  
20 partially buried in sand. I guess there was no aging  
21 management program with that combination of piping  
22 material and sand for the external environment.

23 And when looking at that, the resolution  
24 was evidently that the sand was temporary and that a  
25 permanent situation would be air, and that was

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1 considered an aging management program.

2 But my question is regarding your  
3 temporary modification program. In other words, this  
4 sand, how did it get there? Is there a temporary  
5 modification program that controls that? You know,  
6 how do we know that that kind of thing might not  
7 happen in the future? Is there a control process for  
8 that kind of a thing, or might we get into a situation  
9 where, as in this case, we have kind of a different  
10 external environment than is considered in the license  
11 renewal application?

12 MR. KALINOWSKI: In this case, that was  
13 not the result of a mod or any sort of a temp mod. We  
14 were actually outside of our spec. That portion of  
15 pipe should be exposed to air. So again, we're  
16 outside of specs.

17 In this case, we wrote the CR, and we'll  
18 go ahead and bring it back into with our  
19 specifications call for, which is that that piece of  
20 pipe be not exposed to rocks or sand. It was actually  
21 placed into our corrective action program and handled  
22 in that manner.

23 MR. LEITCH: So it was in error that --

24 MR. BARTON: So how did this thing get  
25 there? Mother Nature or --

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1 MR. GRUMBIR: Yes. Actually it was just  
2 accumulation of some leaves that had blown in, and  
3 then the same had accumulated around there. So we  
4 went and cleaned that out.

5 MR. BARTON: So what have you done so that  
6 that doesn't happen again?

7 MR. GRUMBIR: And then what we did is we  
8 added to our system walk-down for system engineers.  
9 We added to that system walk-down program to look for  
10 significant changes in environment.

11 MR. LEITCH: Okay. So on your periodic  
12 system walk-down -- and we'll talk some more about  
13 that later -- but that's one of the things that the  
14 engineers that walked that down would be looking for  
15 that kind of --

16 MR. GRUMBIR: That type of situation.

17 MR. LEITCH: -- environmental situation.

18 MR. GRUMBIR: Right, and again, to put it  
19 into context, this was a pipe outside that had some  
20 insulation about it, and the sand had accumulated up  
21 next to the insulation, not up against the piping  
22 itself.

23 MR. LEITCH: Yeah, my concern was not so  
24 much with the specifics of this situation, but it sort  
25 of signaled to me that maybe your temporary

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1 modification procedure was flawed because I was  
2 picturing that somehow somebody decided to put sand  
3 around this pipe, and there was no record of that.

4 But this is an environmental situation  
5 you're talking about.

6 MR. GRUMBIR: Correct.

7 MR. LEITCH: Not a conscious decision.

8 MR. GRUMBIR: That is correct.

9 MR. LEITCH: Okay.

10 MR. KALINOWSKI: Here's a list of our 16  
11 plant specific programs. I'm only going to talk about  
12 those that either haven't been in recent applications  
13 or the ACRS may have an interest in.

14 One of those is the Boral Surveillance  
15 Program, and that's an existing program, and that  
16 basically monitors our condition of the boral in the  
17 spent fuel pool, and it does this through a series of  
18 boral coupons that periodically remove and measure for  
19 a neutron attenuation.

20 Another example is the ISI augmented  
21 inspection program. That's also an existing program,  
22 and in our containment spray system we have some  
23 portions of pipe that are wetted with sodium hydroxide  
24 and other ones that are periodically dry and wet,  
25 which leads to a higher concentration of contaminants,

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1 which may lead to cracking. Therefore, we're going to  
2 be putting these in our ISI augmented inspection  
3 program to look for that cracking.

4 Another --

5 MR. LEITCH: One thing about that boral  
6 inspection program. There's an indication that that  
7 removal was not performed twice when it should have  
8 been performed in 1994 and 2001, and the program  
9 ownership was reassigned. It just doesn't give me a  
10 lot of confidence for how you are keeping track, how  
11 you're score keeping on these various programs,  
12 particularly ones that are performed rather  
13 infrequently like this.

14 You know, how do we know it will be better  
15 in the future?

16 MR. BARTON: There's another issue with  
17 this same program, is they inspection in on trend test  
18 data, but yet this is a program they've asked to be  
19 extended from doing every two years to every five  
20 years, and I don't know where the staff stands on that  
21 issue either, but it's on the same program you're  
22 talking about.

23 MR. LEITCH: Yeah.

24 MR. KALINOWSKI: well, let me go ahead and  
25 address that first question with regard to the missed

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1 inspection in 1994.

2 We did go through an extended restart, and  
3 as a part of that, we looked at all of our programs  
4 and made a lot of improvements to these programs. And  
5 we made improvements to our work control process to  
6 make sure that work is adequately scheduled and  
7 performed.

8 So really we have gotten a lot better  
9 since our restart during the 1997 to 2000 time frame.

10 MR. LEITCH: Yeah, I think that might  
11 explain the omission in 1994, but as I understood it,  
12 there was an omission in 2001, as well.

13 MR. KALINOWSKI: As I understand it pulled  
14 at is -- Neil, can you help out there. As I recall,  
15 we pulled that in 2001; is that correct? I don't  
16 think --

17 MR. HAGGERTY: Neil Haggerty with Indiana  
18 Michigan Power Company.

19 We did pull a capsule or a coupon in  
20 November of 2001, and analyzed it in March of 2002.  
21 So I think there was just one that was missed, was my  
22 understanding.

23 MR. KALINOWSKI: Correct.

24 MR. LEITCH: Well, move on. I'll get the  
25 -- I must have misread the thing then because it

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1       seemed to indicate that there were two, and I guess  
2       it's not so much whether one or two is missed, but I  
3       think significant is if there was one missed after  
4       2000.  It's more significant in my mind because you  
5       made all of these process improvements since 2000  
6       then.  So I'll take a look at my notes and confirm  
7       that.  Why don't we just move on?

8               MR. GRUMBIR:  To address one of your other  
9       questions on that though, the recurring task process  
10      that we have through our maintenance activities,  
11      what's going to happen out of this is there's a  
12      recurring task that's going to be into the system so  
13      that every time it is performed, it regenerates itself  
14      for the next scheduled activity.

15             That's the same process we use for  
16      surveillances in tech specs.  So that's how that's  
17      prevented in the future.

18             MR. BARTON:  Has the NRC bought off on the  
19      two-year to five-year extension on the inspection  
20      here?  It was in your inspection report.

21             Your report states the current program  
22      does not print this data.  Yet the applicant plans to  
23      increase inspection monitoring from two years to five  
24      years.  Basis for changing the frequency was not  
25      explained.

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1 DR. KUO: We have staff here. She's going  
2 to talk about that.

3 MR. BARTON: Okay.

4 MS. LAURON: I'm Carolyn Lauron from  
5 Division of Engineering.

6 The degradation associated with boral is  
7 not expected to be significant, and the applicant has  
8 provided data that supports that. So based also on  
9 the recommendations, the increased interval of five  
10 years is acceptable.

11 MR. BARTON: Thank you.

12 MR. LEITCH: Let me. I found the place I  
13 was reading, and it's a letter from Indiana Michigan  
14 Power Company to the NRC, dated January 21st, 2005,  
15 and it says, "Insufficiently defined responsibilities  
16 in the controlling procedure resulted in missed  
17 samples. That is, the boral coupon removal and  
18 evaluation tasks were not performed twice between 1994  
19 and 2001."

20 MR. KALINOWSKI: Correct. That schedule  
21 at that time would have called for two coupon  
22 removals. It's probably important to note, too, that  
23 was a seven-year interval, and as previously stated  
24 there was little or no degradation during that seven-  
25 year interval.

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1           MR. LEITCH: Yeah, my concern is not with  
2 the degradation of the boral, but rather with the  
3 follow-through on commitments. I guess, you know, a  
4 lot of this license renewal issue is nothing but  
5 commitments. I mean, you commit to do thus and such,  
6 and we inspect to see that that's done.

7           But one of the pivotal issues is the  
8 ability to track and follow through with these  
9 commitments, and there are a couple of places here  
10 where that seems to be lacking. This is just but one  
11 of them. There are a couple others I'll point out  
12 further downstream.

13           MR. KALINOWSKI: Another program that may  
14 be of interest is the Instrument Air Quality Program.  
15 That's an existing and we use that to manage the  
16 effects of aging of loss material and cracking of the  
17 components, and we do this by maintaining the system  
18 free of water and submit contaminants.

19           Structures monitoring. We previously  
20 talked about the ice condenser. This is a mini  
21 program that's unique to ice condensers. We do  
22 inspect the ice baskets and also monitor the divider  
23 barrier seal.

24           As we previously talked about during the  
25 restart, there were some issues with some possible

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1 bypass load, and we monitored the divider barrier seal  
2 to make sure that bypass load does not occur.

3 MR. ROSEN: Well, our questions were not  
4 about the divider barrier seal only. They included  
5 questions about the upper and lower door seals, and I  
6 think there's some sort of intermediate divider. I'm  
7 not sure whether it has seals or not.

8 So would you be sure to cover the full  
9 scope of not just the two sub bullets you have up here  
10 when you talk about this to the full committee?

11 MR. GRUMBIR: We can do that, and actually  
12 maybe Paul Schoepf can talk a little bit right now  
13 about some of that so that it can help bring it into  
14 perspective.

15 MR. ROSEN: Okay.

16 MR. SCHOEPF: Paul Schoepf, Indiana  
17 Michigan Power.

18 If it would be helpful, I could give you  
19 maybe a two-minute visual walk-through the ice  
20 condenser and talk about the different surveillances  
21 and inspections.

22 MR. ROSEN: With the indulgence of the  
23 Chairman, it would help me, I think.

24 MR. SCHOEPF: Okay. Do you have the cut-  
25 away of the containment as a slide that you can bring

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1 up, or is that --

2 MR. KALINOWSKI: I can pull it up here.  
3 I don't know if we have it on slides.

4 MR. SCHOEPF: Okay.

5 MR. GRUMBIR: I have it on a different  
6 computer.

7 MR. SCHOEPF: Yeah, the ice condenser  
8 containment has the three compartments, the lower  
9 compartment housing the nuclear steam supply system,  
10 the upper compartment, and then the ice condenser sort  
11 of bridges the gap. The design is, as I think you  
12 know, such that if we have a break in the lower  
13 compartment, the blow-down is channeled up through the  
14 ice condenser.

15 So if we take kind of a geographical walk-  
16 through of the ice condenser, in the lower compartment  
17 there are lower inlet doors, 24 pairs of basically  
18 refrigerator doors that have seals as you mentioned  
19 that open under differential pressure. Those doors  
20 are monitored per the tech specs for opening force.  
21 Every door is monitored each outage.

22 The seals don't really have a safety  
23 related function. The seals' function is to basically  
24 make sure we get a good seal so that we don't get warm  
25 air from the lower compartment up into the ice spread

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1 which would cause sublimation of the ice.

2 So going again geographically through, we  
3 have the doors at the lower inlet area that are  
4 monitored for opening force to make sure they can  
5 open. Just below them at the floor are the floor  
6 drains. There's 21 floor drains with a ten inch pipe  
7 and basically a flapper check valve, again, which  
8 keeps the warm air from the lower compartment out.

9 Those flapper valves are also subjected to  
10 an opening force test once per refueling cycle.

11 MR. ROSEN: And there's a paper seal over  
12 the floor with --

13 MR. SCHOEPF: Yes, there's a grating at  
14 the floor level in each of those 21 drains. It's a  
15 water soluble paper. The function of that paper is,  
16 again, to keep warm air from migrating up the ten inch  
17 floor drain. It's basically a maintenance issue, but  
18 the paper is replaced every outage. New paper is put  
19 in. During the outage, of course, we're in the lower  
20 part of the ice condenser, and that paper would  
21 basically get trampled, if you will.

22 MR. ROSEN: So they're not in scope. The  
23 paper is not in scope because it's replaceable. It's  
24 a consumable.

25 MR. SCHOEPF: Right.

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1 MR. ROSEN: And the seals are not in scope  
2 because it's for normal operation. Is that what  
3 you're saying?

4 MR. SCHOEPF: Correct. They don't perform  
5 a safety function. They basically are sealed just  
6 like your refrigerator to keep the warm air out.

7 MR. ROSEN: That's true of the lower door  
8 inlet seals, as well as the other upper door seals?

9 MR. SCHOEPF: Well, as you go up through  
10 the ice bed, then you get to an intermediate deck, and  
11 there is intermediate deck doors, 196 of those, 24  
12 bays times eight doors. Each of those has also a  
13 rubber seal that, you know, once again its purpose is  
14 to keep the cold air in the ice bed and not in the  
15 upper plenum.

16 Once you're in the upper plenum --

17 MR. ROSEN: And that's a non-safety seal  
18 as well?

19 MR. SCHOEPF: That's correct. It's  
20 basically for, again, to keep the air in.

21 One of the things about the ice condenser  
22 is there's very little about the guts of it, if you  
23 will, that's safety related. For example, they are  
24 handling units with glycol chillers. All of that is  
25 non-safety related, and the reason for that is

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1 basically what you rely on is keeping the ice bed at  
2 a certain temperature. If you lose the cooling  
3 capability and you exceed that temperature, then  
4 you're obliged to enter the LCO and eventually shut  
5 the plant down.

6 So that glycol system and the air handlers  
7 do not have the function to mitigate an accident. The  
8 ice bed is what performs the energy absorption  
9 function.

10 MR. ROSEN: And hence they're outside the  
11 scope of license renewal.

12 MR. SCHOEPF: Correct.

13 MR. ROSEN: One other question then.  
14 That's helpful. On this drawing that you passed out,  
15 there's something called the wear slab. What is that?

16 MR. SCHOEPF: The wear slab is basically  
17 a thing concrete slab over the -- there's insulating  
18 panels in the floor, again, to basically keep the warm  
19 compartment temperatures out of the ice bed. So the  
20 wear slab is based on the slab you walk on. I believe  
21 it's a three inch slab.

22 It also has internal to it glycol cooling  
23 coils to --

24 MR. ROSEN: Does any of that have a safety  
25 function?

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1 MR. SCHOEPF: No, it does not. It's  
2 basically, again, a walking aid. I mean it's --

3 MR. ROSEN: So it's not included in the  
4 scope of license renewal as a structure then.

5 MR. SCHOEPF: Correct, correct.

6 MR. ROSEN: Okay.

7 MR. AHRABLI: This is Reza Ahrabli with  
8 Entergy, of course, with the last thing.

9 As Paul was mentioning, from the license  
10 renewal perspective, it is considerably to get as  
11 conservative to be in the scope and perform the safety  
12 function.

13 MR. ROSEN: Oh, it does?

14 MR. AHRABLI: Yes.

15 MR. GRUMBIR: Conservatively I think is  
16 what you said.

17 MR. AHRABLI: Correct.

18 MR. ROSEN: It does perform a safety  
19 function, and what function is that?

20 MR. AHRABLI: For license renewal.

21 MR. ROSEN: Yeah, what is the safety  
22 function you credit it for?

23 MR. AHRABLI: It is wear slab that is part  
24 of the base floor of the ice condenser.

25 MR. ROSEN: It supports the ice condenser.

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1 MR. AHRABLI: Correct, correct, and we  
2 also have the foundation or the slab as another entity  
3 in the tables in the application. So you see --

4 MR. ROSEN: Okay. So now we have a wear  
5 slab that supports --

6 MR. AHRABLI: Correct.

7 MR. ROSEN: -- the ice condenser and is  
8 included in scope. Am I correct?

9 MR. AHRABLI: Correct.

10 MR. ROSEN: Okay, and what are the aging  
11 management programs with respect to that?

12 MR. AHRABLI: Structural monitoring.

13 MR. ROSEN: Pardon me?

14 MR. AHRABLI: Structural monitoring.

15 MR. ROSEN: But it has buried glycol; it  
16 has glycol coils within it or within the wear slab?

17 MR. AHRABLI: Yes.

18 MR. ROSEN: So is there anything more than  
19 just structural?

20 I mean, it has two functions, as I see it,  
21 to support the ice condenser structures, which you are  
22 monitoring, but it also functions. The cold glycol  
23 flows through it. Is that part of the safety function  
24 or is that not part of the safety function?

25 MR. KALINOWSKI: No, that is not part of

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1 the safety function.

2 MR. ROSEN: Okay. It's got two different  
3 functions, one of which is safety related and one is  
4 not. The one that is safety related is included in  
5 the structure's monitoring program, and as such has an  
6 AMP.

7 MR. KALINOWSKI: Correct.

8 MR. ROSEN: Okay. Thank you.

9 It's a little complicated, but I think we  
10 tracked to it. It's very different from what we've  
11 seen and paid attention to before.

12 MR. KALINOWSKI: And I'll turn the  
13 presentation back to Rich to talk about our  
14 commitments and implementation.

15 MR. GRUMBIR: Okay. As Bob indicated  
16 earlier, many of these programs were identified as  
17 being sufficient to manage the aging effects. We did  
18 have some where some enhancements were necessary, and  
19 many of those enhancements were actually currently  
20 performed. However, they were not explicitly spelled  
21 out in our procedure. So we want to make sure that we  
22 capture those.

23 All of those commitments were tracked by  
24 our commitment management system, the same system that  
25 we utilize for normal licensing correspondence. They

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1 were explicitly identified in the license renewal  
2 application, and during the NRC's review, there were  
3 some adjustments that were made, such as through the  
4 RAI process.

5 The commitment is to implement the  
6 enhancements in the new programs prior to the period  
7 of extended operation. However, our internal goals  
8 are more aggressive than that, and by those more  
9 aggressive goals, we anticipate that we will be well  
10 prepared for the inspections that are necessary prior  
11 to the period of extended operation or prior to the  
12 end of our current license.

13 MR. ROSEN: When will that be? Give us a  
14 hint what more aggressive than is.

15 MR. GRUMBIR: I'm just getting --

16 MR. ROSEN: That's 2014.

17 MR. GRUMBIR: That's a good segue into my  
18 next slide. What we are doing right now is we are  
19 drafting many of the procedure changes, if not all of  
20 them, and our objective is to implement those prior to  
21 the close of the project in 2005.

22 As I indicated earlier, many of these  
23 enhancements are already performed as part of a good  
24 practice. However, they're just not in the procedure.

25 For example, one of the enhancements is

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1 for the boric acid corrosion program to formalize, to  
2 address the aggregate impact of leaks on electrical  
3 components. It's something that's done as part of our  
4 normal practice.

5           However, the procedures did not explicitly  
6 identify that. So it's an enhancement that we will  
7 make.

8           MR. BARTON: Where in your schedule are  
9 you going to implement the buried piping cable  
10 program? That's another one that says prior to  
11 extended operations, but you know, it seems to me that  
12 we would have one of those in place now.

13           MR. GRUMBIR: We haven't decided the  
14 specifics on that one. Is that correct, Bob, or do  
15 you have something?

16           MR. KALINOWSKI: That's correct.

17           MR. GRUMBIR: Okay, and again, for those  
18 programs where we are not going to implement them as  
19 part of the license renewal project right now, i.e.,  
20 2005, we want to make sure that we have an adequate  
21 plan for that implementation, such as for Alloy 600  
22 where there's some industry initiatives that we're  
23 monitoring that need to be brought to resolution  
24 before we can implement that program. We want to make  
25 sure that we have a clear path forward on those and

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1 enter it into our action tracking system.

2 In addition, we want to make sure that  
3 when we turn over from the project that the line  
4 departments can continue with some of the aging  
5 management programs. For example, we've performed  
6 some training four our system engineers.

7 There's an EPRI -- I can't recall now if  
8 it's a two or four-day class that we put on to help  
9 them understand aging management and what to  
10 recognize, what to look for.

11 We will have a license renewal program  
12 owner, although it's something that we currently do as  
13 part of our corrective action in OE; it will sort of  
14 be focused with one individual so that there's going  
15 to be some consistency as well. It's going to be an  
16 individual that came from the project. So they'll  
17 have some level of historical knowledge as well.

18 And on a similar token, Mr. Haggerty will  
19 be returning back to the Licensing Department, where  
20 he will also be retaining some of that historical  
21 information.

22 In closing, I just want to say that we  
23 found the review process was thorough, efficient, and  
24 effective. We felt that it was a positive interaction  
25 between the staff and the Indiana Michigan Power

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1 Company representatives, and the entire process was a  
2 systematic way for us to look at our station programs  
3 and see where we can make enhancements to it.

4 And those are enhancements that we're  
5 interested in making because we're interested in, you  
6 know, safe and reliable, long-term operation of the  
7 facility.

8 What that --

9 MR. ROSEN: I'd like to make one comment  
10 about what was suggested that you come back to the  
11 full committee and talk about was the ice condenser  
12 aging management program.

13 MR. GRUMBIR: Yes.

14 MR. ROSEN: And I still think you ought to  
15 do that, but I think now having heard the responses to  
16 some of my questions and to some of Mr. Leitch's  
17 questions, I think you ought to help the full  
18 committee by focusing on what parts are in scope and  
19 what parts of the ice condenser will be out of scope  
20 and why that's so. Because some things are out of  
21 scope because they're not safety related, and although  
22 there are seals there, they serve no safety function,  
23 and that kind of thing I found very helpful.

24 MR. GRUMBIR: I understand we'll provide  
25 some more information when we come back for the full

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1 committee on the ice condenser to help articulate  
2 where the scoping boundaries are and why.

3 MR. ROSEN: Right.

4 MR. BARTON: But I think what might help  
5 the full committee is, you know, like seals aren't in  
6 scope, but are they covering the preventive  
7 maintenance program? And you do an inspection every  
8 refueling outage and replace seals depending upon  
9 conditions or, you know, it's that kind of activity  
10 going on even though it's not in this so-called scope.  
11 I think that's what the full committee needs to hear  
12 because they're going to be a little upset, I think,  
13 about what you're saying is in scope in ice condenser.

14 MR. KALINOWSKI: We should probably  
15 clarify that. There are some seals that are in scope,  
16 like the divider barrier seal, for example. Those  
17 that Paul talked about are not in scope. So there's  
18 various --

19 MR. ROSEN: That's why we want a full  
20 reading.

21 MR. KALINOWSKI: Correct.

22 MR. GRUMBIR: Okay.

23 MR. LEITCH: I had a question about the  
24 AFW system. In an NRC inspection report dated January  
25 10th of this year, it says problems with corrosion

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1 were not captured in the past four system walk-downs  
2 of the AFW system. Several sections of AFW piping had  
3 to be replaced in the fall of '04 due to ground water  
4 leakage into the ASW tunnel.

5 I guess here's another indication where  
6 system walk-downs were not performed as inspected, if  
7 I'm interpreting this correctly, as expected. And it  
8 goes on to say that it appears that a combination of  
9 system health and corrective action programs were  
10 needed.

11 And I guess if these two programs were  
12 needed, why aren't they listed here rather than a  
13 system walk-down program which is apparently more  
14 limited?

15 MR. KALINOWSKI: Actually, our system  
16 walk-down program uses those inputs, operator round's  
17 corrective action reports and all sorts of things.  
18 It's more at the level of tracking of those conditions  
19 than of the actual conditions not being identified.

20 And the issue there it's correct we did  
21 not document that well in our walk-down reports, but  
22 as a matter of fact, it was tracked. It was in our  
23 corrective action system, and we were actively  
24 pursuing ways to resolve the issue.

25 MR. LEITCH: It also goes on to say that

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1 the frequency was not as described, and the results  
2 have not been reviewed by a system engineering  
3 supervisor as described in the LER.

4 MR. KALINOWSKI: Well, they haven't been  
5 assigned by the supervisor. They have not been  
6 assigned by the -- there's a block on the form to  
7 sign, and it was not signed. That is also correct.

8 We do recognize there are some  
9 enhancements that we do need to make to the system  
10 walk-down program, and we did change some of our  
11 internal documentation of those enhancements as a  
12 result of that NRC and that inspection report.

13 MR. GRUMBIR: In fact, the system walk-  
14 down program is one of those that we've actually made  
15 some changes to to reflect some of these aging  
16 management attributes that need to be looked at, such  
17 as the --

18 MR. BARTON: What kind of changes?  
19 Because you know, you're talking a lot of credit in  
20 your extended operation, your management program for  
21 system walk-down, and when I look at -- and I  
22 understand what a good system walk-down is all about  
23 and how well you document it and get a corrective  
24 action system and do something and how much of the  
25 system walk-down you can do when a plant is operating

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1 versus when a plant is in refueling outage.

2 And now you've got guys committed to every  
3 quarter doing the system walk-down, this part of your  
4 program, and only going to be able to see part of the  
5 system, and I doubt if they're really going to do it  
6 quarterly because you're going to overload the system  
7 engineers and the guys that review it. And I just see  
8 that as, you know, a disaster down the road.

9 So how are you going to manage an  
10 effective system walk-down program as part of aging  
11 management? And I think that you've bitten off a lot  
12 on your aging management program taking credit for a  
13 system walk-down. It's an administrative nightmare to  
14 do that. What are you going to do with the guy that  
15 doesn't do his thing every quarter? You know, 20  
16 lashes or what?

17 Because I know what engineers do, and I  
18 know how they hate to do system walk-down. You've  
19 going to do it every quarter, and the guy has got  
20 design problems and projects and refueling outage mods  
21 he's worrying about, and system engineers are worrying  
22 about that, and now he's going to do a four-day walk-  
23 down.

24 You know, I don't know. It seems to me  
25 that maybe you want to consider something else unless

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1 you're convinced it's going to work and work  
2 effectively. And I'd like to know how you think that  
3 that could happen.

4 How many system engineers have you got?  
5 Five hundred?

6 MR. GRUMBIR: No, not 500. We're  
7 convinced that it will work, and I'll let Joel  
8 articulate some of that.

9 MR. GEBBIE: Joel Gebbie, Indiana Michigan  
10 Power.

11 You do bring up a very valid concern that  
12 we also saw in that we weren't giving the system  
13 engineers enough time to do their walk-downs, to do  
14 their system health monitoring, system health  
15 reporting. We had a fairly significant reorganization  
16 of our engineering resources late last summer because  
17 of that concern, and we actually reduced the staff  
18 size of our system engineering personnel, but then  
19 focused them on longer term, proactive engineering.

20 So we put additional engineers in our  
21 daily plant support groups, our production engineering  
22 groups, our engineering program groups, and now our  
23 system engineers are focused solely on performance  
24 monitoring, walk-downs, health reporting, and long-  
25 term system health management.

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1           And we've put PIs in place, performance  
2 indicators in place, to measure how effective are we  
3 at doing those core jobs that system engineers have to  
4 do because we did have the same concerns that you just  
5 brought up.

6           MR. BARTON: Well, I've seen plants when  
7 they're doing the same type of thing that you're  
8 talking about and have PIs on performance, and the PIs  
9 that they can make their goal on are the ones that  
10 we're talking about, and plants really struggle with  
11 that.

12           So, you know, I'm just concerned that you  
13 guys would be able to chew what you're going to try to  
14 bite off here on system walk-down and the amount of  
15 credit you're taking for that managing some of your  
16 systems.

17           MR. GEBBIE: Right, and that's looked at  
18 at a very high level for management now. In fact, all  
19 system health reports now get looked at by our plant  
20 health committee at least twice a year. If a system  
21 is in red or yellow or more degraded status or  
22 receives a more frequent look, and we look at the  
23 issues like you mentioned, the ESW pipe tunnel, which  
24 is something that had showed up in the health report  
25 yet didn't receive the level of management attention

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1 that we think it should have.

2 So as part of our excellence recovery  
3 plans, we have put significant processes in place to  
4 make sure that we're out ahead of these items and that  
5 we correct them, say, before we do have corrosion on  
6 the outside of some auxiliary feedwater piping.

7 And that's in accordance with industry  
8 best practices. We've seen it in plants like the Duke  
9 plants, the Exelon plants, et cetera.

10 MR. LEITCH: I don't see much discussion,  
11 if any, regarding the role of quality assurance in  
12 assuring that these various procedures and programs  
13 are implemented. Does quality assurance have a role  
14 in this, in monitoring the effectiveness of these  
15 system walk-downs?

16 MR. GEBBIE: They have in the past and  
17 they'll continue to do field observations on the  
18 application of our standards or our procedures, and  
19 again, they had also noted the same thing earlier in  
20 the year, that there had been some walk-down reports  
21 that had not been filed or had not been reviewed by  
22 the appropriate people.

23 And so they are looking at that and making  
24 sure that as we put procedures, whether they're  
25 handbook procedures, official plant procedures in

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1 process that we are actually following those.

2 And our senior management has asked our  
3 performance assurance department to pay particular  
4 attention to that because we realize the only way to  
5 get to excellent performance and to sustain excellent  
6 performance is by a proactive engineering and not  
7 reactive engineering.

8 So we are taking a very close look at that  
9 as we go forward.

10 CHAIRPERSON BONACA: Okay. Any other  
11 questions for the applicant?

12 MR. LEITCH: I was wondering if anyone  
13 knew the core damage frequency of these units.

14 MR. GRUMBIR: Joel, do you want to respond  
15 to that, too?

16 MR. GEBBIE: I'm sorry. I did not hear  
17 the question.

18 MR. GRUMBIR: The core damage frequency,  
19 CDF.

20 MR. GEBBIE: Which system has the highest  
21 CDF at Cook? Is that your question?

22 MR. LEITCH: No. What is the total CDF of  
23 the plant?

24 MR. GEBBIE: The total CDF, I don't know  
25 the exact number it is for a loss of off-site power

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1 scenario, and please correct me if I'm wrong. It's  
2 around 5.5, I believe, ten to the minus fifth.

3 MR. ROSEN: Five times ten to the minus  
4 fifth?

5 MR. GEBBIE: Yes. Let me get that number  
6 verified before I give you an exact number, please.

7 MR. ROSEN: Okay.

8 MR. GEBBIE: Because I'm thinking off the  
9 top of my head. So let us get that number and get  
10 that back to you so that we don't mislead you.

11 MR. ROSEN: We had a briefing from Ms.  
12 Jansen who is their PRA supervisor.

13 CHAIRPERSON BONACA: But anyway.

14 MR. LEITCH: I was unfortunately absent  
15 from that.

16 CHAIRPERSON BONACA: Okay.

17 MR. LEITCH: It's in the order of ten to  
18 the minus five?

19 MR. ROSEN: Well, I don't remember the  
20 number.

21 MR. GEBBIE: Let's get that.

22 MR. GRUMBIR: Mr. Haggerty has it.

23 MR. HAGGERTY: I do have the number. Neil  
24 Haggerty.

25 For each unit it's 4.28 times ten to the

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1 minus fifth. That's based on the current modeling.

2 MR. LEITCH: Okay. Thank you.

3 CHAIRPERSON BONACA: Okay. If there are  
4 no other questions for the applicant, thank you for  
5 the presentation.

6 MR. GRUMBIR: Thank you.

7 CHAIRPERSON BONACA: For a lot of good  
8 information you gave us, and we're going to take a  
9 break until 3:15.

10 (Whereupon, the foregoing matter went off  
11 the record at 2:57 p.m. and went back on  
12 the record at 3:16 p.m.)

13 CHAIRPERSON BONACA: Okay. Let's get back  
14 into session.

15 We will now have the presentation by the  
16 staff of the SER, and Mr. Kuo.

17 DR. KUO: Yes, Jonathan Rowley, the  
18 project manager for the D.C. Cook license application  
19 review, he will lead the presentation and be supported  
20 by Patricia Loughheed who is the inspection team  
21 leader, as I said earlier, and then also he will be  
22 joined by Greg Cranston to talk about the audit  
23 report.

24 CHAIRPERSON BONACA: Okay.

25 MR. ROWLEY: Good afternoon. My name is

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1 Jonathan Rowley. I'm Safety Project Manager for the  
2 Donald C. Cook Nuclear Plant license renewal  
3 application.

4 I with the aid of other staff members will  
5 be presenting the safety review findings and  
6 evaluations documented in the safety evaluation report  
7 with open items.

8 I'd like to begin by giving a few  
9 highlights of the NRC's review of the license renewal  
10 review as part of the pilot program using the audit  
11 process.

12 The SER was issued on December 21st, 2004.  
13 There were two open and two confirmatory items, both,  
14 all four had been resolved since the issuance of the  
15 SER with the open items. Five components or  
16 commodities were brought into scope as a result of our  
17 review.

18 There were three audit and two inspections  
19 performed at the facility to facilitate their LRA  
20 review.

21 Section 2 of the SER discusses structures  
22 and components subject to an AMR. Section 2.1  
23 discusses scoping and screening methodology; describes  
24 the methodology used to identify structures, systems,  
25 and components that are within the scope of the

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1 license renewal subject to an AMR.

2 As a result of our review, one item was  
3 brought into scope, insulation of pipings and  
4 penetrations.

5 In the area of non-safety related piping  
6 attached to safety related systems, structures, and  
7 components, a request for additional information was  
8 issued pertaining to the equivalent anchor location.  
9 The definition of the equivalent anchor location was  
10 not initially explicit. So we asked what it was, and  
11 they confirmed that the equivalent anchor was a point  
12 or points encompassing restraints in three orthogonal  
13 directions, which is consistent with their CLB and  
14 that large pieces of plant equipment identified as  
15 equivalent anchor point were included in the scope.

16 In the area of leak, spray and flooding,  
17 the applicant used a bounding spaces approach to  
18 identify non-safety related equipment that could  
19 especially interact with safety related systems,  
20 structures, and components.

21 Staff was concerned that spray and wetting  
22 of safety related systems, structures and components  
23 resulting from failure of non-safety related  
24 equipment. As a result, the staff's review of the  
25 applicant's non-safety related systems containing

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1 steam or liquid that are near safety related equipment  
2 in scope of 10 CFR 54(a)(2) regardless of exposure  
3 time.

4 CHAIRPERSON BONACA: Now, you had the  
5 bullet there, insulation, pipe and penetrations, was  
6 brought in because of this by review, your review of  
7 the methodology?

8 MR. ROWLEY: Yes. Greg.

9 MR. GALLETTI: Yes.

10 MR. ROWLEY: Could you step up and answer?

11 MR. GALLETTI: This is Greg Galletti from  
12 the staff.

13 One of the general questions we typically  
14 ask when we start looking at commodities and  
15 consumables is how insulation was evaluated by the  
16 plant, and typically what we're looking for in certain  
17 cases, and this is very CLB specific, insulation may  
18 actually perform an intended function for that  
19 particular design of the plant, and as such, we expect  
20 the applicants to go through their evaluation and  
21 determine if, in fact, insulation does perform those  
22 intended functions.

23 In this case, the applicant did go through  
24 an evaluation, and identified, I think, in two  
25 systems, emergency core cooling and auxiliary

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1 feedwater. There were, in fact, certain portions of  
2 insulation that was credited with limited heat load in  
3 areas after post accident conditions, and as such that  
4 insulation was brought into scope and subject to a  
5 review.

6 CHAIRPERSON BONACA: Okay.

7 MR. BARTON: Does this plant have any heat  
8 tracing of external systems? And is that in scope,  
9 the systems that provide a safety function or support  
10 a safety system?

11 MR. GALLETTI: Let me defer to the  
12 applicant specifically here to address that.

13 MR. KALINOWSKI: Yes, we do have some  
14 external portions or some piping that is, in fact,  
15 heat traced.

16 MR. BARTON: Now, is that safety related  
17 piping, is the heat tracing in scope or not?

18 MR. KALINOWSKI: The heat tracing is not  
19 safety related. However, the approach that we took to  
20 scoping was that all electrical components are in the  
21 scope. So based on that approach it would be in  
22 scope.

23 MR. BARTON: You picked it up. Thank you.

24 MR. ROWLEY: Section 2.2, discuss plant  
25 level scoping results. Staff did not identify any

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1 omissions, and there were no open or confirmatory  
2 items.

3 Section 2.3 discusses system scoping and  
4 screening results of the mechanical systems. There  
5 were four items brought under scope as a result of our  
6 review, two being the strainer internals and air  
7 distributor housings for inadvertently omitted in  
8 scope by CNP, and they were just placed in review.

9 The emergency diesel exhaust silencers  
10 brought interview due to the fact that the staff  
11 believed that failure of the exhaust silencers could  
12 partially or completely block the exhaust flow and  
13 thereby preventing the EDG from achieving the required  
14 power output.

15 The spent fuel pool makeup, Regulatory  
16 Guide 1.13 requires that adversity of makeup water  
17 sources to the spent fuel. Initially no sources were  
18 credited for makeup. As a result of the staff's  
19 review, the applicant credited the fire protection  
20 system and components in the path from the RWST  
21 isolation of valves to the spent fuel pool.

22 MR. BARTON: I've got a question. At  
23 one-time didn't the applicant consider or mention that  
24 part of the CVCS system was provided supplemental  
25 water to the fuel pool and then backed out of it

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1 because it's not seismic 1? Is that correct?

2 MR. ROWLEY: I'd like to refer to Raul  
3 Hernandez.

4 MR. HERNANDEZ: My name is Raul Hernandez  
5 from Plant Systems.

6 In the past there was a -- the licensee  
7 mentioned that there are several sources that could  
8 provide makeup to the spent fuel pool, but they never  
9 commit to one particular source. They don't have one  
10 seismic source. So they rely on several sources for  
11 makeup, but they never committed to just one source in  
12 particular. They rely on several sources. Actually  
13 they mentioned seven sources.

14 MR. BARTON: Well, so there are some  
15 additional the fire protection system or what?

16 MR. HERNANDEZ: They have other sources  
17 that they could use, but they only credited two for  
18 license renewal.

19 MR. BARTON: So what did they credit,  
20 refueling water storage tank?

21 MR. HERNANDEZ: And fire.

22 MR. BARTON: And fire protection system.

23 MR. HERNANDEZ: Yes.

24 MR. BARTON: Fire water service?

25 MR. HERNANDEZ: Yes.

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1 MR. ROWLEY: Section 2.4 discusses  
2 scoping.

3 CHAIRPERSON BONACA: Just a question I  
4 had. You brought into scope four items. Was there a  
5 fundamental disagreement or was it just simply that  
6 these items were overlooked, I mean?

7 MR. ROWLEY: Well, the two were definitely  
8 overlooked.

9 CHAIRPERSON BONACA: Okay. So the  
10 conclusion still is that the scoping and screening  
11 process was effective in general.

12 MR. ROWLEY: Yes.

13 CHAIRPERSON BONACA: Okay, and if applied  
14 effectively, it would have identified this, too. So  
15 it was just an oversight.

16 MR. ROWLEY: Yes, it was.

17 CHAIRPERSON BONACA: Okay.

18 MR. ROWLEY: Section 2.4, discuss scoping  
19 and screening results of the structures. Staff did  
20 not identify any omissions or discrepancies in this  
21 section.

22 Section 2.5, the scoping and screening  
23 results of electrical and instrumentation and control  
24 systems. Section 4.4 discussed the electrical  
25 components subject to EQ requirements. Here in

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1 Section 2.5 we did the non-EQ commodity groups. There  
2 were omissions or discrepancies in this section as  
3 well.

4 MR. LEITCH: Now we're talking about  
5 electrical. There's a comment there that the  
6 uninsulated ground conductors are not subject to an  
7 aging management review. I was under the impression  
8 that a proper ground, that is, the condition of those  
9 uninsulated ground conductors was important to the  
10 operation of some protective relaying equipment, and  
11 I'm surprised that there is no consideration of those  
12 ground conductors.

13 MR. ROWLEY: Well, I'll defer to OM Chopra  
14 to answer that question.

15 MR. CHOPRA: OM Chopra, electrical  
16 engineer.

17 I think the ground conductors they're  
18 talking about is V-1, which is for personal protection  
19 rather than the grounding of the relaying. These are  
20 those heavysset wires, that you ground the cable trays  
21 or other equipment, and they serve no safety function.

22 MR. LEITCH: But then are there certain  
23 ground conductors that are in the scope?

24 MR. CHOPRA: Well, if it's a grounding,  
25 then it doesn't have to be a bare conductor. That's

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1 what I'm saying. The bare conductors that they  
2 ground, they are just personal protection, not for a  
3 safety function.

4 MR. LEITCH: Yeah, okay. So what we're  
5 saying is not in scope are those ground conductors  
6 that are just for personal protection then.

7 MR. CHOPRA: Right.

8 MR. LEITCH: Okay.

9 MR. ROWLEY: Summary of the scoping and  
10 screening. The scoping and screening methodology is  
11 adequately described and justified in the license  
12 renewal application. The scoping and screening review  
13 results found that the system structure and components  
14 within the scope of the license renewal have been  
15 identified.

16 At this point I would like to introduce  
17 Patricia Lougheed, Region III, inspection team leader,  
18 to discuss inspections performed during the license  
19 renewal process.

20 MS. LOUGHEED: Good afternoon. As  
21 Jonathan has said, my name is Patricia Lougheed. I  
22 was the lead inspector for one of the two inspections  
23 that we conducted at D.C. Cook and am now the regional  
24 lead inspector for all license renewal inspections.

25 During this for D.C. Cook we did two

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1 inspections. The first one is a scoping and screening  
2 inspection. The objective of this was to confirm that  
3 the applicant had included all of the systems,  
4 structures and components within the scope of the  
5 license renewal that they had said they had and that  
6 they didn't omit any inadvertently.

7           During this we identified three follow-up  
8 issues. Two of them actually were more aging  
9 management issues, and the last one, which is second  
10 on this slide, about the emergency core cooling  
11 system, was a scoping and screening issue.

12           Overall, we felt that D.C. Cook had  
13 properly conducted the scoping and screening  
14 activities for D.C. Cook and did not find any areas  
15 which had been omitted.

16           MR. LEITCH: These enclosures around the  
17 ECCS equipment.

18           MS. LOUGHEED: Yes.

19           MR. LEITCH: Are they basically weather  
20 enclosures? I have trouble picturing exactly what  
21 we're talking about there. Is that original plant  
22 design or were these something that were added later  
23 on?

24           MS. LOUGHEED: They were, if I remember  
25 correctly, they are there for leak detection, and they

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1 are basically there. It's kind of a drainage piping  
2 situation, that they are only to collect the water to  
3 funnel it to a point where it can be accounted for.

4 MR. LEITCH: Okay, and as such then they  
5 have no real safety function, yeah.

6 MS. LOUGHEED: It was determined they had  
7 no safety function.

8 MR. LEITCH: Yeah, yeah, and I guess I had  
9 a question about the inspection of the main steam stop  
10 valves. I guess the folks went up into that area, and  
11 I'm sure because of noise heat insulation, just the  
12 general -- I mean I can kind of picture the kind of  
13 area you're talking about. It would be very difficult  
14 to inspect piping. I just don't understand how that  
15 inspection -- and it's another one of these  
16 inspections that they say could be done on, I guess,  
17 a quarterly basis. So some of those quarters the unit  
18 would be in service, and I just don't understand how  
19 one could effectively get any information, meaningful  
20 information, from such a system walk-down.

21 MS. LOUGHEED: I was the inspector that  
22 actually was up looking at those areas. Yes, the  
23 rooms are extremely hot during normal operation. I  
24 mean, it is physically possible to walk in them.

25 MR. LEITCH: Yeah.

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1 MS. LOUGHEED: However, you cannot inspect  
2 the piping because it is covered with insulation.  
3 Some of it is underneath the grating. You know, we  
4 were concerned about just how effective it would be to  
5 actually physically inspect that piping, as you said,  
6 with the system walk-down journal operation.

7 We don't believe it really is very  
8 feasible to get close to the piping because there's  
9 insulation on it. You're not going to see anything.  
10 You get high humidity in the rooms and it's going to  
11 be difficult to detect small leaks.

12 MR. LEITCH: So the GALL prescribes  
13 quarterly inspections. Is that the thing?

14 MS. LOUGHEED: I'm not sure that the GALL  
15 prescribes it. I know that the licensee's program  
16 asks for quarterly inspections.

17 MR. LEITCH: Quarterly inspections. So  
18 how was that resolved, I guess, Patricia?

19 I guess what we're saying is we doubt the  
20 effectiveness of such a quarterly inspection; is that  
21 right?

22 MS. LOUGHEED: The issue that was brought  
23 up in the scoping and screening part was whether or  
24 not the aging management program was looking at the  
25 correct environment. It was whether the applicant had

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1 considered just dry air versus a hot, humid,  
2 potentially steamy environment.

3 And we were able to successfully answer  
4 that portion.

5 To get to your other question about the  
6 success of the system walk-downs, we had a number of  
7 conversations during our second inspection, aging  
8 management inspection about that very issue. The main  
9 steam stop valve area was one of the ones that we  
10 specifically looked at.

11 In the end, our inspectors, they felt that  
12 it would be possible to detect leaks, that there  
13 really should not be that much of a choice of external  
14 degradation for the piping, and that the system walk-  
15 down should be fairly successful in finding that  
16 simply because there is enough -- even if the system  
17 engineers aren't getting in there on a quarterly basis  
18 -- and I'm not saying they aren't -- but there are  
19 operators that go in there. There's maintenance  
20 workers. So that there are enough pieces in the  
21 overall system monitoring that would detect  
22 degradation.

23 Is that what we're looking for here, is  
24 leakage or, I mean, we're not looking for pipefitting  
25 or anything like that, are we? We're looking for

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1 leakage?

2 MS. LOUGHEED: If I'm correct, and I'd  
3 have to go back and really double check my notes, that  
4 the aging management that the system walk-down was  
5 credited for was looking for degradation of the  
6 external surface of the pipes, and because it's  
7 primarily an air environment, it's very limited  
8 external degradation that should occur.

9 The wall thinning would tend to be  
10 something that would come up as a result of like  
11 accelerated corrosion, which is a separate program.

12 MR. ROSEN: Well, that's internal. We're  
13 talking about here external.

14 MS. LOUGHEED: Right. Here we're talking  
15 about external. There really shouldn't be that much  
16 of an external environment.

17 MR. ROSEN: Well, there's just no hope  
18 that they're going to detect external corrosion on the  
19 piping while it's in service.

20 MR. BARTON: Not with insulation on it.

21 MS. LOUGHEED: Not with insulation.  
22 You're absolutely correct.

23 MR. ROSEN: So we have to rely on it when  
24 the plant is shut down, and so what's the program when  
25 it's shut down if they have to look?

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1 MS. LOUGHEED: It's still going to be  
2 looking at basically taking off pieces of insulation,  
3 is my understanding.

4 MR. ROSEN: And that's what they plan to  
5 do, occasional pieces of insulation?

6 MS. LOUGHEED: Taking it off, right, and  
7 I think that if there was a leak, you know, which  
8 would be the one where you'd really be concerned about  
9 creating more of an adverse environment, that that  
10 would be detected fairly easily.

11 MR. ROSEN: If they have that element in  
12 their program that they're going to remove a section  
13 of insulation to a different one every outage or every  
14 other outage, whatever the right frequency is, I'm  
15 comfortable.

16 MS. LOUGHEED: Okay.

17 MR. LEITCH: But do they have such an  
18 item?

19 MS. LOUGHEED: I really can't tell you.  
20 I would have to --

21 MR. LEITCH: Because it seems to me this  
22 quarterly inspection is useless to detect external --

23 MS. LOUGHEED: Insulated piping,  
24 especially when that insulated piping is not  
25 accessible.

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1 MR. LEITCH: Yeah.

2 MR. BARTON: If you had a leak in there,  
3 you'd sure as hell hear it.

4 MR. LEITCH: Well, you would know.

5 MS. LOUGHEED: Yes.

6 MR. LEITCH: Long before quarterly.

7 MR. ROSEN: John, I think the idea is to  
8 get it before you have a leak.

9 MS. LOUGHEED: Right, but I think that  
10 your degradation mechanism is really going to be  
11 coming from inside the piping rather than from the  
12 outside.

13 MR. ROSEN: But we're checking the  
14 outside, too, in this quarterly --

15 MS. LOUGHEED: But we're checking the  
16 outside, too, right, and I think that you're right.  
17 About the only the thing the quarterly is going to do  
18 is tell you if something got all the way through, and  
19 to get that stopped before it has a chance to degrade  
20 any other place.

21 MR. LEITCH: Yeah, well, that doesn't  
22 sound real iron clad, but I guess by the same token --

23 MR. BARTON: Maybe we ought to ask the  
24 licensee what they're going to do.

25 MR. LEITCH: Yeah, that's a good point,

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1       yeah, yeah.

2                   MR. KALINOWSKI: This is Bob Kalinowski  
3       with Cook.

4                   There's a few issues here, one of them  
5       being that you're not going to experience a lot of  
6       corrosion in this area anyway because it's a hot area.  
7       So you're not going to have a lot of condensation.

8                   However, we did conservatively include  
9       that as an aging effect in the application. The  
10      current expectation is that the assistant manager  
11      would walk that down when the insulation is removed.

12                  I knew there was a move afoot to go ahead  
13      and document that a little bit better, but I'm not  
14      exactly sure of the status of that.

15                  MR. LEITCH: So the assistant manager will  
16      walk it down when the insulation is removed.

17                  MR. KALINOWSKI: That is correct.

18                  MR. LEITCH: Is that an opportunistic  
19      inspection when the insulation is removed for other  
20      reasons?

21                  MR. KALINOWSKI: Correct.

22                  MR. ROSEN: Which would probably mean it's  
23      not often done.

24                  MR. KALINOWSKI: During outages and  
25      maintenance activities.

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1 MR. ROSEN: But not typically done, right?  
2 Every outage?

3 MR. KALINOWSKI: Joel?

4 MR. GEBBIE: Joel Gebbie, Indiana Michigan  
5 Power.

6 Part of the walk-downs, we look for a lot  
7 more than just, say, piping corrosion issues. We look  
8 for items like, say, vibrating piping valves, support  
9 degradation, some thing that would indicate maybe a  
10 high cycle fatigue type phenomena that can accelerate  
11 aging of a component.

12 We'd also look for evidence of maybe  
13 dripping or something like that or maybe water running  
14 down walls or something like that that would be an  
15 early indication of a leak. So the quarterly walk-  
16 down we understand we can't remove insulation and look  
17 at the outside of the pipe, but there are many other  
18 precursors, aging precursors in there that we can look  
19 at while the system is in operation. We do that.

20 And then we do utilize the time we have  
21 during refueling outages, whether it's for a flow  
22 accelerated corrosion inspection or even, say, a weld  
23 inspection as part of an ISI program to look at the  
24 exterior of the pipes also.

25 MR. LEITCH: Let me just understand. I

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1 don't want to belabor this point, but on a quarterly  
2 basis, you go in there and kind of look around and see  
3 if there's anything untoward going on, unexpected or,  
4 you know, anything like that --

5 MR. GEBBIE: Correct.

6 MR. LEITCH: -- happening, and when the  
7 insulation is removed for other purposes, you more  
8 formally look at the external surface of the pipe.

9 MR. GEBBIE: That's correct.

10 MR. BARTON: Yeah, as long as it's  
11 written, the job ticket, to call the system engineer  
12 to come look at it.

13 MR. GEBBIE: Right, and we're putting more  
14 in there, especially with our program owners also  
15 because in some cases it could be the in-service  
16 inspection program manager who will get called to look  
17 at that.

18 But as I spoke earlier, one of the  
19 expectations for segregating our system engineers was  
20 to give them more opportunities to do that and to  
21 become more intrusive in both on-line and outage  
22 operations.

23 MR. LEITCH: Yeah, this is not an area  
24 that is subject to a great deal of external corrosion  
25 anyway, unless it's brought on by other environmental

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1 factors.

2 MR. GEBBIE: Correct.

3 MR. LEITCH: But you would notice this.

4 MR. GEBBIE: Yes, that's correct.

5 MR. LEITCH: Okay. Thank you. I

6 understand.

7 MS. LOUGHEED: The second of two  
8 inspections that we did was an aging management  
9 program inspection. The objective of that inspection  
10 was to look at the implementation or the plans that  
11 the applicant had for the aging management programs.

12 We did not identify any issues that really  
13 would be an adverse indicator for license renewal.

14 We were able to close the issues that we  
15 had raised in the scoping and screening inspection.  
16 We found the applicant had adequately resolved all of  
17 them.

18 I believe one of you had asked about the  
19 buried piping earlier. That was a case where the  
20 exterior environment had been allowed to encroach upon  
21 the pipe, and they did put that in their corrective  
22 action program, and it was ruled as part of the  
23 current ongoing operations. So we had no further  
24 concern about that.

25 We did follow up with NRR, talking with

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1 Jonathan, on both the flow accelerated corrosion  
2 program and the borral surveillance program because we  
3 identified issues that we couldn't answer as part of  
4 our inspection.

5 MR. LEITCH: On that aging management  
6 program, a couple of questions. Page 16 of the  
7 inspection report, you're talking about the oil  
8 analysis that's done.

9 MS. LOUGHEED: Yes.

10 MR. LEITCH: For lubricating oil, and I  
11 don't see any mention of hydraulic fluid and EHC  
12 systems. Is there any analysis of that or is this  
13 just lubricating oil we're speaking of here?

14 MS. LOUGHEED: The only thing that was in  
15 scope or that was included as part of the oil analysis  
16 program was, I believe, the lubricating oil for the --

17 MR. BARTON: Turbine? No, the diesels, I  
18 think.

19 MS. LOUGHEED: I was thinking the various  
20 pumps.

21 MR. BARTON: Oh, okay.

22 MS. LOUGHEED: Okay? Your ECCS pumps.  
23 Many of them have lubricating oil inside.

24 MR. LEITCH: And I think the diesels, too.

25 MS. LOUGHEED: The diesels, yes. So that

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1 was what was in scope for oil analysis.

2 MR. LEITCH: I guess I --

3 MS. LOUGHEED: I don't remember there  
4 being any EHC fluid that was identified as being in  
5 scope.

6 MR. LEITCH: Yeah, I just question that  
7 because it seems to me that an EHC fluid being  
8 contaminated can cause problems as significant as  
9 lubricating oil being contaminated. I mean, the EHC  
10 system can very easily cause problems with the turbine  
11 control system and result in reactor scrams. Not only  
12 can, but has on a number of occasions.

13 I would just be surprised that we have  
14 lubricating oil, but not --

15 MR. SIEBER: Hydraulic.

16 MR. LEITCH: -- hydraulic fluid.

17 MS. LOUGHEED: I'm afraid that I can't  
18 answer that question. I can tell you that their  
19 program was only limited to the lubricating oil, and  
20 that as that was an existing program, we found that it  
21 was being implemented fairly well.

22 MR. LEITCH: Yeah, and I don't think  
23 there's anything different about cook here. It's just  
24 a thought that came to my mind as I was reviewing this  
25 one. I think other places are just the same, as you

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1 mentioned.

2 MS. LOUGHEED: I would have to really turn  
3 that over to the applicant to ask them what they're  
4 doing with the EHC fluid because that was not  
5 something we looked at in our inspection.

6 MR. GEBBIE: Joel Gebbie, Indiana Michigan  
7 Power.

8 We do have a periodic program to take EHC  
9 fluid and sample it. We actually send it off site  
10 because we utilize that to determine then when we're  
11 going to change EHC fluid. So it's part of our  
12 preventive maintenance program, and it is conducted by  
13 our lubrication engineer just because it is a type of,  
14 you know, lubrication type fluid.

15 But we do periodically sample the oil and  
16 review the results and then perform change-outs based  
17 on the trend in those results.

18 MR. LEITCH: Yes. I could see a  
19 justification perhaps for not having this in scope  
20 because it's not a long-lived component, but by the  
21 same token, neither are these lubricating oils. I  
22 mean, I think the issue is that if the lubricating  
23 oils are degraded, they would cause excessive wear in  
24 the bearings of the diesel if you were talking about  
25 diesel oil.

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1           But I think these EAC fluids could also  
2 cause excessive wear in all of those little pilot  
3 valves that operate the turbine control valves and so  
4 forth that could, you know, give some problems.

5           I'm just wondering, and it's maybe not a  
6 question for D.C. Cook specifically, but maybe it's  
7 more a question for the NRC staff. If lubricating  
8 oils are included in scope, why are not EHC fluids  
9 included in scope?

10           DR. KUO: Dr. Leitch, we will get back to  
11 you on that.

12           MR. LEITCH: Yeah, okay.

13           MS. LOUGHEED: All right. Okay. The next  
14 area that I was asked to talk about is the licensee's  
15 current performance. This kind of echoes what is  
16 discussed by Mr. Grumbir.

17           Right now, as of right now, which is  
18 publicly, the licensee is in the regulatory response  
19 column for both units -- I'm sorry -- for Unit 2 due  
20 to a white inspection finding in the public radiation  
21 safety cornerstone and a white performance indicator  
22 for initiating events cornerstone on Unit 2.

23           For Unit 1 it's in the licensee response  
24 column because of just having the one white inspection  
25 finding.

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1 MR. ROSEN: Now, what was the issue on  
2 Unit 2 white inspection finding of scrams with loss of  
3 normal heat removal?

4 MS. LOUGHEED: It wasn't an inspection  
5 finding.

6 MR. ROSEN: I know. It was a  
7 performance --

8 MS. LOUGHEED: It was a performance  
9 indicator. My understanding of the issue is that this  
10 actually was something that happened back in 2003, but  
11 there was a question about it as it went into the  
12 people in NRR that handle differences on the  
13 performance indicators, which is why it showed up in  
14 2004.

15 Because of some operational issues when  
16 the licensee was having scrams, they would also close  
17 their MSIVs, and whenever they closed the MSIVs, that  
18 causes a lot of normal heat removal, and this was a  
19 question, you know, whether they needed to count that  
20 as a -- because it was a manual action, you know,  
21 deliberate choice to close the MSIVs, whether that  
22 needed to be counted as a scram with loss of normal  
23 heat removal.

24 MR. ROSEN: Because they were closing the  
25 MSIVs and shutting off access to the condenser.

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1 MS. LOUGHEED: Right. And once it was  
2 determined that, yes, that, indeed, had to be counted,  
3 as the applicant said, they changed their procedures.  
4 They no longer do that, and it's just a case of the  
5 performance indicator running the course that is on  
6 there for so many quarters, and I believe it's going  
7 to be on there for another couple of quarters.

8 MR. LEITCH: But whether the issue was  
9 with or without loss of normal heat removals, the  
10 scram in and of itself, the number of scrams would  
11 have triggered the performance indicator, if I  
12 understand correctly.

13 MS. LOUGHEED: If you would go a couple of  
14 slides further, Jonathan, we've got the Unit 2. I  
15 don't see that the unplanned scrams changed colors.  
16 So I'm not sure. Maybe that goes on and went off. I  
17 don't remember it, and I'm turning to the applicant  
18 because they've got that history.

19 MR. SCARPELLO: Michael Scarpello, Indiana  
20 Michigan Power.

21 If you look at what the initiative events  
22 course was that I'm looking at for scrams and scrams  
23 with loss of normal heat removal, the time duration  
24 that you look at is different between the two. Scrams  
25 is scrams per 7,000 critical hours, and the threshold

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1 is 3.0.

2 For scrams with loss of normal heat  
3 removal, it's over 12 quarters, and the threshold is  
4 two. So you're looking back three years if you're  
5 crossing the two threshold. That's why that's white.  
6 It's three for 7,000 critical hours, which is  
7 approximately a year, and that's why that's green.

8 MR. ROSEN: So that's very helpful. Now,  
9 why was it necessary or did the applicant feel it  
10 necessary to close the MSIVs? What's been the reason?  
11 What's underneath this change in philosophy?

12 MR. SCARPELLO: Well, what happened is,  
13 again, back during the extended outage, '97 to 2000,  
14 we rewrote all of our EOPs to be aligned with the  
15 Westinghouse ERGs. There was a subtle difference in  
16 the way Cook operates from the Westinghouse baseline  
17 plant, and that is on a trip, we automatically trip  
18 our main feed pumps, which you're not getting that  
19 continued flow of warm water into the steam  
20 generators. You automatically go on aux feedwater,  
21 which is much cooler. That was exacerbating our cool-  
22 down.

23 So we revised our EOPs to throttle back on  
24 aux feedwater sooner in the trip procedure, and that  
25 has resolved that problem. We have had a couple trips

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1 since that time when we changed our procedures and  
2 have not had to have that excessive cool-down that  
3 required closure of MSIV.

4 MR. ROSEN: Wouldn't it have been simpler  
5 not to shut down normal feedwater, isolate normal  
6 feedwater?

7 MR. SCARPELLO: That is an automatic  
8 function. Our main feed pumps are steam driven.  
9 There's an automatic trip on loss of the plant that  
10 results in automatically closing down the main feed  
11 pumps.

12 MR. ROSEN: So okay. You close the main  
13 feed pumps. That puts you -- sets you up now for aux  
14 feed, which is cold, and unless you throttle it, you  
15 are going to have to get the main steam isolation  
16 valves closed.

17 MR. SCARPELLO: That is correct. The way  
18 our EOPs were written previously, the operators would  
19 not get to that step of the procedure.

20 MR. ROSEN: Because you are going to go  
21 too low.

22 MR. SCARPELLO: Correct.

23 MR. ROSEN: A too low level if you don't;  
24 is that right?

25 MR. SCARPELLO: Well, this was really

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1 driven by temperature and pressure.

2 MR. ROSEN: Temperature?

3 MR. SCARPELLO: Temperature and pressure,  
4 correct.

5 MR. ROSEN: Okay. So anyway, now you know  
6 how to throttle an aux feed properly.

7 MR. SCARPELLO: That is correct. Again,  
8 the procedure allows the operators to do that sooner  
9 in the trip sequence.

10 MS. LOUGHEED: From the inspection side,  
11 we have conducted a follow-up inspection, 95-002, and  
12 the regional office believes that this issue has been  
13 satisfactorily resolved.

14 MR. ROSEN: So that will just drop off  
15 after --

16 MS. LOUGHEED: As he says, it's on for 12  
17 quarters.

18 MR. SCARPELLO: Twelve quarters is, you  
19 know, from the first event to when we go back under  
20 the threshold. Following the third quarter of this  
21 year we expect to be below that threshold.

22 MS. LOUGHEED: Right. So it's just a case  
23 of it going through the time period, and then it will  
24 come on. At least that's, given current performance,  
25 staying the same.

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1 MR. SCARPELLO: That is correct.

2 MR. LEITCH: But you like the way you're  
3 operating the plant now, right? In other words, I  
4 guess we were not doing something that's not optimal  
5 to manage that indicator, are we?

6 MR. SCARPELLO: No, that --

7 MR. LEITCH: We're always concerned about  
8 unintended consequences of these indicators.

9 MR. SCARPELLO: That is correct, and this  
10 is not a less than optimal method of operating the  
11 plant.

12 MR. LEITCH: Okay, okay. Good.

13 MS. LOUGHEED: Just the bottom bullet on  
14 here. There are, at least as of the fourth quarter of  
15 2004, there were not substantive cross-cutting issues.  
16 There had been one, and it is closed.

17 MR. ROSEN: Okay. I was going to push a  
18 little bit at the words "a substantive," whether you  
19 had some sort of message that you wanted to deliver,  
20 but --

21 MS. LOUGHEED: Those are the words in the  
22 revised reactor oversight program in manual Chapter  
23 0605. It talks about cross-cutting issues, and then  
24 it talks about substantive cross-cutting issues which  
25 are ones that get mentioned in the cover letter of our

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1 mid-cycle and --

2 MR. ROSEN: Okay. So there may be some  
3 cross-cutting issues. An issue may be in the PI&R  
4 program here and there or --

5 MS. LOUGHEED: Right, but there --

6 MR. ROSEN: -- human performance issue or  
7 something, but --

8 MS. LOUGHEED: There's nothing that rises  
9 to a level that we believe needs to be brought up in  
10 the cover letter of our assessment report.

11 MR. ROSEN: Now I learned something.

12 MS. LOUGHEED: And in speaking of mid-  
13 cycle and end of cycle, we have meetings twice a year  
14 to discuss the licensee's current performance. Our  
15 end of cycle meeting for D.C. Cook happened to occur  
16 yesterday.

17 Unfortunately the results have not yet  
18 been made public. They will be provided to the  
19 licensee in a letter within the next three weeks, and  
20 there will be a public meeting to discuss the results  
21 somewhere before April 22nd. We haven't set a firm  
22 date yet.

23 And in conclusion, we don't see anything  
24 in the current performance that would cause us to feel  
25 that license renewal would not be acceptable.

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1 Jonathan, could you show them the Unit 2?

2 You've seen both sets of slides, right?

3 MR. ROWLEY: Okay. Thank you, Patricia.

4 Section 3 of the SER is where the aging  
5 management review results are discussed. It's where  
6 we get into our aging management programs. For Cook  
7 there were 46 total AMPs, of which 33 were existing  
8 programs and 13 were new.

9 Among the 46, 13 were consistent with  
10 GALL. Seventeen were consistent with exceptions or  
11 enhancements, and 16 were plant specific.

12 I would now like to bring forth Greg  
13 Cranston, the audit team leader, to discuss selected  
14 aging management programs.

15 MR. CRANSTON: Well, good afternoon.  
16 Before I actually get into this slide, I did want to  
17 cover a couple of issues that Dr. Bonaca brought up  
18 earlier. One was the question regarding new AMPs  
19 where there was a commitment identified in the audit  
20 report that these documents would be looked at at some  
21 later time.

22 After we prepared the audit report and  
23 into actually entering information in the SER, we  
24 determined that that was really not necessary because  
25 all of those programs, and there were eight of them

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1 that were characterized as new out of the 46, we  
2 reviewed all of those against existing engineering  
3 reports which identify specifically what is going to  
4 be in the aging management program and how it relates  
5 to GALL and if there's any exceptions or enhancements  
6 or whatever. Those are all described, and those are  
7 all reviewed as part of the audit.

8 And in their UFSAR supplement, they've  
9 already committed to having those programs available  
10 and operational prior to ending this operation. So  
11 that's why those statements that were in the audit  
12 report did not need to be transferred into the SER.

13 I think that was it as far as what I  
14 wanted to cover at this particular time, and then I'll  
15 get into the presentation.

16 During our on-site audits and reviews, we  
17 looked at both AMRs or AMPs that are consistent with  
18 GALL, as well as those that are plant specific. For  
19 the review we did, we looked at approximately 35 AMPs  
20 of which about one-third were plant specific and the  
21 others were consistent with gall, some with exceptions  
22 and some with enhancements.

23 I want to discuss some of these AMPs that  
24 we looked at with some of the results. As it turns  
25 out, your previous questions have also focused in

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1 these same areas. So we may have covered some of  
2 these points already, but I'll go over them again  
3 briefly.

4 For the service water system reliability  
5 AMP, this was an AMP that was consistent with GALL and  
6 had both exceptions and enhancements. In this case,  
7 the exception was that the heat exchanger receive a  
8 visual inspection and cleaning rather than thermal  
9 performance, which is what is suggested by GALL.

10 However, the basis for us accepting  
11 inspection and cleaning was twofold. Initially when  
12 the applicant submitted their response to Generic  
13 Letter 89-13, that was the program that was approved  
14 by staff that they can do visual inspections,  
15 including, first, if there's any adverse conditions  
16 that are detected during the inspection that are  
17 significant based on their review, then they would  
18 actually go back and do a heat exchanger thermal  
19 performance test.

20 CHAIRPERSON BONACA: Now, these special  
21 findings would consist of what you can see through  
22 visual inspection and that's it.

23 MR. CRANSTON: Yes.

24 CHAIRPERSON BONACA: So I don't see how  
25 the visual inspection gives you a true understanding

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1 of your heat exchanger, the thermal performance, I  
2 mean.

3 MR. CRANSTON: I would have to defer to  
4 design engineering regarding their specifics as far as  
5 the generic 8913.

6 CHAIRPERSON BONACA: Yeah.

7 MR. CRANSTON: This was a past precedent  
8 that had been established that we use in conjunction  
9 with our audits.

10 CHAIRPERSON BONACA: Yeah, and that's one  
11 which I had some difficulty accepting when I was  
12 reading it because maybe it is correct, but the SER  
13 doesn't explain, again, how visual inspection is going  
14 to give us information that will let us decide whether  
15 or not we have to have a heat exchanger test. ice  
16 condenser mean, I just couldn't understand that.

17 MR. CRANSTON: Well, they're looking at no  
18 signs of obvious degradation, wear or anything that  
19 would affect performance of that heat exchanger.

20 CHAIRPERSON BONACA: Okay.

21 MR. CRANSTON: In conjunction with the  
22 enhancement, the applicant in conjunction with the  
23 selected leaching will do a physical check. The GALL  
24 indicates that some type of hard assessing or physical  
25 inspection is required, not just the visual, and there

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1 they did provide that enhancement to be consistent  
2 with GALL.

3 MR. ROSEN: I don't know what selective  
4 leaching is. What are we talking about?

5 MR. CRANSTON: It's the deterioration of  
6 the pipe due to certain elements just actually  
7 leaching out of the pipe leaving kind of a soft --

8 MR. ROSEN: You're talking about the  
9 alloy?

10 MR. CRANSTON: You can scrape off with a  
11 knife even as you pull off --

12 MR. ROSEN: Certain components of the  
13 metallic composition of the piping actually will  
14 leave, will dissolve either internal to the tubing in  
15 the heat exchanger or external; is that correct?

16 MR. CRANSTON: That's correct, and what it  
17 leaves is something that's not quite as strong as if  
18 the metal was completely intact. To understand the  
19 thickness of it --

20 MR. ROSEN: We're talking about what kind  
21 of heat exchangers? What are the materials of  
22 construction that we're talking about here?

23 MS. LOUGHEED: If I could provide some  
24 information.

25 MR. ROSEN: Yes, please.

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1 MS. LOUGHEED: As an inspector, one of the  
2 programs that we look at is the heat exchangers on a  
3 continuous basis where we do go in at least once a  
4 year and watch their examination of the heat  
5 exchangers.

6 In terms of the first issue about  
7 inspecting and cleaning, the utilities do have to have  
8 acceptance criteria, and it's not an inspect or clean.  
9 When they open them up to inspect them, they have to  
10 clean them afterwards so that we know that at the  
11 start of every period, which can be no longer than  
12 five years under the generic letter, that we know that  
13 their heat exchangers have been returned to an as new  
14 conditions.

15 MR. ROSEN: What heat exchangers are you  
16 talking about?

17 MS. LOUGHEED: Okay. Heat exchangers that  
18 are in the program for D.C. Cook would be like the  
19 diesel generator jacket water coolers, the lube oil  
20 coolers --

21 MR. ROSEN: For the diesel?

22 MS. LOUGHEED: -- the component cooling  
23 water heat exchanger. I think those are the --

24 MR. ROSEN: RHR heaters?

25 MS. LOUGHEED: No, the RHR is not in that

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1 program because it's closed cooling water.

2 Containment spray heat exchanger, the  
3 control room, room coolers, auxiliary feedwater room  
4 coolers. I believe those are the ones that are in  
5 scope for D.C. Cook.

6 CHAIRPERSON BONACA: So the cleaning is  
7 the emphasis you're giving. The only visual  
8 inspection of the cleaning that will depend in --

9 MS. LOUGHEED: It's the cleaning that  
10 gives you the continuous assurance, and the inspecting  
11 is to make sure that there hasn't been any past  
12 operability concerns, and they do have to have  
13 criteria, you know, to show that they are within  
14 what's acceptable.

15 I hope that clears that up a little bit.

16 CHAIRPERSON BONACA: Okay. Yes, it does  
17 for me.

18 MR. CRANSTON: In conjunction with their  
19 aging management program for cast austenitic stainless  
20 steel, this AMP was revised to be consistent with  
21 GALL. Initially the applicant had cited a previously  
22 approved staff position to do only external visual  
23 inspection, and based on our review, we decided that  
24 that was not applicable to this particular plant, and  
25 they revised the AMP to be consistent with GALL and to

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1 do the volumetric inspections and the flow tolerance  
2 evaluations.

3 MR. BARTON: Is this an open item?

4 MR. CRANSTON: No.

5 MR. BARTON: It was an open item? No?

6 MR. CRANSTON: No.

7 MR. BARTON: Okay.

8 MR. CRANSTON: No, this is something we  
9 discussed and resolved during the --

10 MR. BARTON: Okay.

11 DR. RANSOM: Something I didn't  
12 understand, and maybe your statements have changed  
13 this, but in the audit report under the cast  
14 austenitic stainless steel program, it says, "Since  
15 this is a new program, final determination of its  
16 acceptability will not be made until the details of  
17 the final AMP have been submitted to the NRC, which  
18 shall occur prior to the period of extended  
19 operation."

20 And subsequent to this paragraph it says,  
21 "On the basis of its review of the UFSAR supplement  
22 for this AMP, the project team also finds that it  
23 provides an adequate summary." I want to know --

24 MR. CRANSTON: That was one of the eight  
25 that I was talking about previously where that

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1 statement shouldn't have been in there because it's  
2 covered in the UFSAR supplement.

3 DR. RANSOM: All right.

4 MR. CRANSTON: On system walk-downs, this  
5 is a plant specific aging management program. There  
6 was two issues that the audit team had identified. WE  
7 have credited for managing loss of material for  
8 internal as well as external carbon steel surfaces,  
9 and we generated an RAI requesting the basis for using  
10 a walk-down to detect internal loss of material.

11 And generally what they were talking about  
12 is there are some cases where you can get some minor  
13 indication like a minor pinhole leak that will  
14 indicate that you've got a problem inside long before  
15 you've reached the situation where the pipe is not  
16 structurally sound or that the make-up capability  
17 isn't far in excess of what you would leak, but we  
18 still felt that that was more of a mitigating type  
19 event rather than an aging management approach.

20 And so based on discussions with the  
21 applicant, they've revised their programs, and instead  
22 of using the system lock-down for internal, they use  
23 the floor accelerated corrosion or service water  
24 system reliability or one-time inspection or other  
25 type of programs that are more directly applicable

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1 to --

2 MR. BARTON: Now, is that open item  
3 3.2.1.11-1?

4 MR. CRANSTON: Jonathan was that --

5 MR. BARTON: That's it? So that was the  
6 resolution? Okay.

7 MR. ROWLEY: And we'll revisit that in an  
8 upcoming slide.

9 MR. BARTON: Okay.

10 MR. ROWLEY: Hope it will clarify.

11 MR. BARTON: Thank you.

12 MR. CRANSTON: The last item I wanted to  
13 discuss has turned out it was previously discussed by  
14 the application as well on flow accelerated corrosion,  
15 but there were two issues. One had to do roughly with  
16 scoping, that the AMP did not credit the flow  
17 accelerated corrosion program for detecting aging in  
18 the main steam nozzles, that the applicant needed to  
19 include that.

20 And the second issue we've already  
21 discussed in conjunction with what criteria is used  
22 for expanding the sample. That was the one we  
23 discussed previously. So I won't go into that, again,  
24 unless there are some additional questions on that.

25 This was resolved based on input we

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1 received from the resident inspection discussions we  
2 had to reach a conclusion with the applicant to  
3 resolve this issue.

4 That's it.

5 MR. LEITCH: Greg, I had a couple of  
6 questions. On pages like 18 through 21 of your  
7 reports, it discusses diesel fuel monitoring, and  
8 there's an exception taken to GALL because the  
9 applicant has no program to monitor MIC,  
10 microbiologically induced corrosion.

11 And the idea seems to be that we need not  
12 worry about MIC because there has been no problem so  
13 far. The fuel supplier has been good at, I guess,  
14 making additives and so forth, supplying fuel with  
15 additives that reduce the position for MIC.

16 MR. CRANSTON: Yes.

17 MR. LEITCH: But I guess one thing that I  
18 find disturbing is how do we know, you know, that this  
19 fuel supplier is going to continue for another 30  
20 years? And how do we know that the past experiences  
21 are really going to continue?

22 And although there has been no problem so  
23 far, GALL does suggest that there be a MIC program.  
24 I'm not sure I understand the rationale for agreeing  
25 that they don't need a MIC program.

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1 MR. CRANSTON: Well, the rationale was  
2 based primarily on operating experience which has gone  
3 on for over 25 years without any evidence of any MIC  
4 problems based on the programs they have for insuring  
5 the quality of the oil that's in the tanks. That was  
6 the basis of that particular exception.

7 MR. LEITCH: Yeah, it just sounds kind of  
8 weak to me, but again, I think it's one of these  
9 things that we've talked about several times during  
10 this meeting. You know, we have GALL requiring one  
11 thing and for what seems to me to be not real iron  
12 clad reasons, we agree with two exceptions to GALL.

13 Certainly this diesel fuel oil is an  
14 important system here, and I just -- I mean other  
15 people have experienced MIC in these tanks, and I just  
16 wonder what's the -- I mean, I hear what you're  
17 saying. I hear the applicant's rationale, no problem  
18 so far, good fuel supplier, but I just don't have a  
19 whole lot of confidence that that would continue for  
20 the next 30 years without monitoring.

21 CHAIRPERSON BONACA: Yeah, I think we  
22 discussed this before, and as you know, I see this  
23 somewhat as you see it, too. So many of the  
24 exceptions are based on projecting for the future  
25 through the years for the same performance observed in

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1 the previous 20 or 15.

2 And you know, the conditions may change,  
3 and so that's a heck of an assumption through those  
4 kind of projections.

5 MR. LEITCH: So we'll have to follow up on  
6 that one perhaps.

7 But I guess another thing that I found  
8 curious is Attachment 3 to your report are basically  
9 follow-up items, and I guess there's -- I don't  
10 know -- a whole bunch, maybe 20 or so of them, and of  
11 those 20, it seemed to me they fell mainly, you know,  
12 almost exclusively into three categories. One had to  
13 do with elastomer properties and whether we could tell  
14 by visual examination the types of deterioration,  
15 cracking, hardening, embrittlement that were occurring  
16 on various elastomers.

17 And I just wondered. There's like nine  
18 issues here on elastomers, and I guess, you know, when  
19 you find this many issues, I just wonder is there some  
20 kind of a generic problem with the review that the  
21 applicant conducted of the elastomer program?

22 MR. CRANSTON: Well, in many cases when  
23 you look at the items in Attachment 3, these are  
24 issues that we have required follow-up on, but in many  
25 cases we got the letters and the information back from

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1       them identifying what they were doing. So in many  
2       cases it was more of a question of we felt there  
3       wasn't enough information provided in their original  
4       aging management program to let us know how they were  
5       doing that.

6               So in many cases the information was  
7       provided by the applicant. We reviewed it and  
8       accepted it, which is why it didn't become an open  
9       item or something that got carried over to the safety  
10      evaluation report.

11             So we struggled with that one a little bit  
12      just to gain enough information to decide whether or  
13      not to accept or reject their approach.

14             MR. LEITCH: I guess the concern I have is  
15      when there are so many problems in one area, you k  
16      now, it's good that you identify these issues, but you  
17      wonder might there still be others that you haven't  
18      identified. Is there a real problem with their  
19      elastomer review?

20             But I guess what you're saying is that the  
21      problem was more a transmission of information than  
22      the quality of the review that was done.

23             MR. CRANSTON: Yes.

24             MR. LEITCH: I sort of had the same  
25      problem with another categorization of these items'

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1 chemistry, water chemistry, and I think there were  
2 seven issues there in water chemistry, and they all  
3 seemed to center around reliance on system walk-down  
4 alone, rather than inspection, in other words, kind of  
5 looking for leaks rather than preventing leaks. At  
6 least that's the way I read it.

7 Is there a generic problem in the  
8 chemistry area where their approach seems to be, well,  
9 we'll walk down the system and, you know, if our  
10 ankles get wet we have a problem; otherwise it's okay?

11 MR. CRANSTON: Well, that was earlier I  
12 talk about with the slide where they were using system  
13 walk-downs for that purpose, and we said no.

14 MR. LEITCH: Okay.

15 MR. CRANSTON: And they shifted over to  
16 these other -- there was three I think I mentioned.

17 MR. LEITCH: Okay. So that's the other  
18 side of that.

19 MR. CRANSTON: Get them where they needed  
20 to be.

21 MR. LEITCH: Yeah, okay. Good. And  
22 another one in the structure's monitoring program,  
23 Attachment 5, there were apparently a lot of omissions  
24 in the structure's monitoring program. There's a  
25 whole list of things there that, as I read this, were

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1 not included: equipment supports, instrument panels,  
2 racks, cable trays, conduit, cable tray supports,  
3 conduit supports, pipe hangers, fire protection, pump  
4 house. What is the significance of that whole list?  
5 I'm not sure I understand that whole list of things  
6 there.

7 Do you see where I'm talking about, Greg,  
8 at the top of page A5-8?

9 MR. CRANSTON: Unfortunately I don't have  
10 that page with me. It may be also in the write-up  
11 here I'm looking at.

12 MR. LEITCH: Okay. Do you want to take a  
13 look at mine? There's just a whole list of stuff  
14 there at the top of that page.

15 MR. CRANSTON: Oh, there are enhancements  
16 that were, as I recall -- and I can verify that in  
17 the write-up here -- that were identified by the  
18 applicant themselves that they need to add in order to  
19 be consistent with GALL. Let me verify that.

20 MR. LEITCH: Okay.

21 MR. CRANSTON: Yes, that's correct. Why  
22 originally they weren't in the aging management  
23 program I'm not sure, but when they went through and  
24 did their review of their structures monitoring  
25 program, which is 1.32, their engineering report

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1 describes the structured monitoring program, which is  
2 what I talked about earlier, their engineering reports  
3 that were looked at that describe how their program is  
4 going to meet the elements in GALL.

5 And they found that they needed to add  
6 when they went through and did their check. They  
7 found they needed to add these to be consistent. So  
8 this is an enhancement that they themselves identified  
9 prior to us going to do the audit.

10 MR. LEITCH: But after the original  
11 submission of the license application, the license  
12 renewal application.

13 MR. CRANSTON: Well, this will be included  
14 in their submittal as an enhancement.

15 MR. LEITCH: Okay, okay. Thank you.

16 MR. ROWLEY: Okay. To continue, thanks  
17 Greg.

18 As mentioned before, there were AMP  
19 inspection issues brought up from the regional  
20 inspection, flow accelerated corrosion program, which  
21 was an open item as resolved and discussed prior, and  
22 the boral surveillance program, which was also  
23 discussed prior, and if we need to discuss that more,  
24 we can or we can continue on.

25 MR. LEITCH: I guess I had a question for

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1 the licensee on this boral surveillane program. It  
2 seems to me this RAI came to you very, very late in  
3 the process. In fact, I think your letter back to the  
4 NRC closing this issue was only written about the  
5 third week in January.

6 And I guess we're looking at our processes  
7 and so forth. I'm wondering were there many of these  
8 late RAIs coming to you or was this an outlier?

9 DR. KUO: Dr. Leitch.

10 MR. ROWLEY: I can answer it, Dr. Leitch.

11 DR. KUO: Okay.

12 MR. ROWLEY: Due to the timing of when  
13 this inspection took place and the issuance date of  
14 the SER, I was unable to get this put in, whereas the  
15 flow accelerated corrosion program, that issue came up  
16 and was quickly -- an RAI was quickly drafted and sent  
17 in, and I had time to get that in.

18 But the RAI for oral surveillane came  
19 post December 21st. So I didn't have time to get it  
20 into the SER. And that's why instead of being an open  
21 item it's just an RAI.

22 DR. KUO: Dr. Leitch, Carolyn here of the  
23 staff, she has something to add for background.

24 MS. LAURON: Yes, the staff's RAI was  
25 first issued for this program in May of 2004, and in

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1 August of 2004, the applicant provided its response.

2 Subsequent to that, there was an amp  
3 inspection, I believe, Patricia's group performed in  
4 November which they identified that discrepancy. So  
5 given the holiday time and further discussions when  
6 the staff, the inspectors, and Jonathan, along with  
7 the applicant, came with an RAI on the 12th of  
8 January, which resulted in the response on the 21st.

9 So that's the flow, why it was late.

10 DR. KUO: Why it was a little late, yeah.

11 MR. LEITCH: I just think, you know, there  
12 are always a few exceptions, but I mean, I think we  
13 have to try to get the RAIs into the applicant's hands  
14 into a more timely fashion in general.

15 DR. KUO: Yes.

16 MR. LEITCH: I mean I realize that this is  
17 an exception.

18 DR. KUO: Yes, sir. That's what we've  
19 been trying to do, but sometimes --

20 MS. LOUGHEED: Because these came out of  
21 the inspections is the issue, and one of the things  
22 that we've learned in the region is that we need to  
23 move our inspections up a little bit so that they're  
24 not impacting the draft of the SER, and then if there  
25 are questions that come out of the inspection, that

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1 NRR has the time to resolve them.

2 MR. LEITCH: Yeah, sure. Thank you.

3 Thanks.

4 MR. ROWLEY: Section 3.0.3 is where the  
5 aging management programs are discussed. Thirty-four  
6 AMPs were reviewed via the audit process, and Greg  
7 Cranston gave examples of those. Twelve were not  
8 reviewed via the audit process. Two examples are one  
9 is the reactor vessel internal plates, forgings,  
10 welds, and bolting program. That was reviewed  
11 differently due to the issues with stress corrosion  
12 cracking and radiation assisted stress corrosion  
13 cracking and void swelling, things that aren't  
14 addressed in GALL. So this was reviewed differently.

15 Steam generator integrity program was  
16 reviewed due to the fact that the displacement steam  
17 generator internals include Alloy 690, and GALL  
18 addressed Alloy 600.

19 Section 3.1, 3.2, 3.4, 3.5, and 3.6  
20 discuss the aging management reviews of these systems,  
21 and there were no open or confirmatory items in these  
22 systems.

23 The point of interest in Section 3.5 was  
24 aging management of in scope inaccessible areas and  
25 particular concrete, and this slide shows the 25-year

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1 period of pH, chloride and sulfates for two of D.C.  
2 Cook's sample wells, A1 and sample of Well 12.

3 CHAIRPERSON BONACA: And by the way, I  
4 just want to bring it out because of the regular  
5 beginning. You know, the fact that the soil is  
6 nonaggressive helped me also with the very piping  
7 concerns.

8 On the other hand, when I went back to  
9 GALL and looked at it, GALL says that you should  
10 inspect the piping radically in susceptible locations.  
11 So that was already one inside that GALL would pursue.

12 The purpose is to manage the effects of  
13 corrosion and pressure retaining capacity of buried  
14 carbon steel component. Okay? So there is a true  
15 programmatic intent, and the focus is on successive  
16 locations. Evidently there is an expectation that you  
17 know where some location may be. So it's not that you  
18 go and uncover everything. You just study what the  
19 optimum thing is.

20 Conversely, for the applicant, as we had  
21 for the previous ones, we have opportunistic  
22 inspection that says, well, you know, if we ever  
23 uncover a piece of piping we look at it. The first  
24 one in my judgment is the problem, the one from GALL.

25 The second one is not a problem. It's

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1 only purely an accident. I mean, if I happen to  
2 stumble on a pipe, I look at it.

3 So you know, I don't want to belabor this,  
4 except that as you review GALL, I think that you will  
5 have to review it with this perspective in mind, too.  
6 I mean, is it really the problem that you're looking  
7 for?

8 Think about small bore piping. I mean,  
9 you focus very much on susceptible location  
10 irrespective of risk because you want to look if there  
11 is an effect I can place in certain -- and then from  
12 that you can deduct certain general assumptions  
13 regarding your program.

14 That's a problem. You know, here there  
15 was an intent similar to this in GALL, and now  
16 evidently there isn't anymore. We need to understand  
17 it.

18 DR. KUO: Yes, sir. I understand your  
19 concern, and we are trying to answer that. In fact,  
20 as you know, we are in the process of revising the  
21 GALL and updating the GALL.

22 CHAIRPERSON BONACA: But it's not only  
23 revising GALL. I think you have to revise it in a way  
24 that is convincing to the technical community, like  
25 who will be looking at why you're revising it. I

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1 mean, why are you --

2 DR. KUO: We are revising --

3 CHAIRPERSON BONACA: -- the program, and  
4 putting in, you know.

5 DR. KUO: We are revising it to include  
6 more programs --

7 CHAIRPERSON BONACA: I understand.

8 DR. KUO: -- that we can find that could  
9 be generically applicable, and we also could  
10 incorporate some the ISGs and some of the past  
11 precedents.

12 CHAIRPERSON BONACA: I can understand  
13 that. I'm only say that if you revise, for example,  
14 the buried piping inspections, okay, eliminating the  
15 problem that right now GALL is recommending and going  
16 to a pure opportunistic one, I hope that you also put  
17 the justification in it. You explain why it is  
18 acceptable.

19 DR. KUO: I understand, and you know, the  
20 revised GALL now has been issued for comment, and  
21 during this comment period, we will take another look  
22 at it. If that is not really answering the concern,  
23 we will certainly do something.

24 CHAIRPERSON BONACA: Because, I mean, you  
25 are simply stepping down the standards you're looking

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1 for, and so we've got to understand why it is  
2 acceptable.

3 DR. KUO: Right. I understand.

4 MR. BARTON: Did you bring up the  
5 inconsistency? I couldn't hear everything you said.  
6 The inconsistency in this issue also? Because we've  
7 had applicants that come in that have said prior to  
8 the extent operation they would select them, you know,  
9 in an inaccessible area or something and do a one-time  
10 inspection.

11 Now, these guys aren't going to do  
12 anything unless they're doing part of maintenance. So  
13 now you've got some people that are going to do  
14 something with this program and some people that  
15 aren't going to do anything unless they've got a  
16 problem, and what in the hell kind of message does  
17 that send?

18 CHAIRPERSON BONACA: Do we have  
19 inconsistency there?

20 DR. KUO: Inconsistency is one of the  
21 problems that we are trying to correct. Yeah, as hard  
22 as we have been trying, they are still out somewhere.  
23 We will try to catch it as much as we can.

24 CHAIRPERSON BONACA: Okay. I just wanted  
25 to use that as an example because we discussed it

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1 before.

2 DR. KUO: Yeah, I'm aware of that as a  
3 matter of fact.

4 MR. ROWLEY: Section 3.3 discusses the  
5 auxiliary systems. In the area of miscellaneous  
6 systems in scope of 10 CFR 54.4(a)(2), there's an open  
7 item, use of system walk-down program to manage  
8 internal aging effects of 10 CFR 54.4(a)(2) component  
9 types.

10 This was discussed earlier by Greg  
11 Cranston as well, and again, the applicant has decided  
12 to use a combination of flow accelerated corrosion  
13 programs, service water system reliability program,  
14 and a one-time inspection to handle this situation,  
15 and this open item has been resolved.

16 Summary of the aging management review.  
17 Aging management review found that the applicant has  
18 demonstrated the effects of aging will be adequately  
19 managed so that the intended functions will be  
20 maintained consistent with the current licensing basis  
21 for the period of extended operations.

22 MR. LEITCH: Just before you move into  
23 Section 4, if I could, crane inspections. There's  
24 been several bulletins, one quite recent, from the  
25 manufacturer of I think it's the main crane at a

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1 number of plants, this one included concerning an over  
2 stressed condition on those welds. It's not really a  
3 license renewal issue specifically, but it seems like  
4 there's an ongoing potential problem with cracking in  
5 these large cranes, and I'm not sure if the inspection  
6 prescribed here is adequate to identify that cracking.

7 Have you looked at that in light of the  
8 recent issues raised by the Whiting Company on the  
9 stresses in their cranes?

10 MR. ROWLEY: I'll ask Patricia if she has.

11 MS. LOUGHEED: This is an area, again,  
12 part of what we do as inspectors is we are following  
13 up on this issue with the cranes as a current, ongoing  
14 issue to make sure that it is handled properly. It's  
15 really not within the scope of license renewal. It's  
16 something we want to take care of now under our  
17 current licensing basis.

18 MR. LEITCH: Yeah, that's good, Patricia.  
19 Is it at Cook? Is it --

20 MS. LOUGHEED: It does affect, at least as  
21 far as we are aware, it does affect at least one crane  
22 at Cook, and it is being reviewed right now by our  
23 inspector, our resident inspectors.

24 MR. LEITCH: Yeah, I guess it becomes very  
25 important the next time they're going to lift the

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1 reactor head.

2 MS. LOUGHEED: Yes, it does, and it is  
3 something that we don't want to wait for ten years  
4 when license renewal takes effect to address this  
5 issue.

6 MR. LEITCH: Good. I'm glad you're--

7 MS. LOUGHEED: So we're taking care of it  
8 now.

9 MR. LEITCH: Okay. Thank you.

10 MR. ROWLEY: Section 4, discuss the time  
11 limited aging analysis, TLAA.

12 Section 4.2, discuss reactor vessel  
13 neutron embrittlement. There are three analyses  
14 affected by irradiation embrittlement defined as  
15 TLAA's: Charpy upper shelf energy, pressurized thermal  
16 shock, and pressure temperature limits.

17 Applicant and staff calculations for the  
18 upper shelf energy demonstrate the upper shelf  
19 energies will be met for 48 EFPY.

20 Here is a --

21 MR. LEITCH: I'd just like to register a  
22 concern in that area, not so much at D.C. Cook because  
23 they have been shut down for almost three years in the  
24 late '90s. So it's unlikely in their case that they  
25 could exceed 48 effective full power years.

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1           But I think most of the plants that we  
2 see, 54 would be a more reasonable number than 48, and  
3 I'm surprised we're continuing to accept analysis  
4 based on 48 EFPYs. I think in 60 years of operation,  
5 many plants, perhaps not D.C. Cook, but many plants  
6 could challenge that 48 EFPY number.

7           MR. ROWLEY: Cook's current license basis  
8 is 48 EFPY. That's why we have these values here.  
9 Following and me being present for AN '02 license  
10 renewal, I heard that same question about 54 EFPY was  
11 asked, and I did ask the applicant as well as the  
12 staff to give back-of-the-envelope calculations for  
13 54, and I have those values if you'd like to enter  
14 them, but I didn't put them on the slide because it's  
15 not something that's documented.

16           MR. ROSEN: I think Graham's comment is  
17 more germane to PT about when you're revising GALL  
18 what you do with this question. It might be a good  
19 place. Maybe you simply require both numbers, both  
20 calculations.

21           DR. KUO: And, in fact, like Jonathan just  
22 mentioned, we did have both sets of numbers.

23           MR. ROSEN: Yeah, and you have them  
24 reported. You know, you require them to be done, both  
25 for both numbers, and 48 and 54 effective full power

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1 years and require both sets of numbers to be reported  
2 for both upper shelf energy and PTS.

3 CHAIRPERSON BONACA: If they want to  
4 report that 48.

5 MR. ROSEN: If they want to.

6 CHAIRPERSON BONACA: If they do 54, that's  
7 fine.

8 MR. ROSEN: Yeah.

9 CHAIRPERSON BONACA: Okay.

10 MR. ROWLEY: The applicant and staff  
11 calculations for pressurized thermal shock demonstrate  
12 the screening criteria for the limiting belt line RV  
13 material will be met for 48 EFPY, as well. And  
14 these --

15 MR. LEITCH: Referring to the PT limits,  
16 there's a discussion there, and two exceptions are  
17 mentioned, and I guess there's -- I don't know what  
18 the two are. I guess they're similar for each unit,  
19 but the exception seems to be that they're using an  
20 ASME code case rather than Appendix G to 10 CFR 50.

21 Can somebody explain to me what the  
22 significance of that difference is? It says -- let me  
23 read what it says. It says the exception is they want  
24 to use ASME code case N-641 rather than Appendix G of  
25 10 CFR 50. What's that all about?

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1 DR. KUO: Dr. Leitch, Matt Mitchell, the  
2 section chief with Materials Branch.

3 MR. MITCHELL: Yes. This is Matthew  
4 Mitchell with Materials and Chemical Engineering  
5 Branch.

6 Code Case N-641 generically applies to the  
7 use of a K1c fracture toughness curve instead of the  
8 traditional K1r based crack arrest fracture toughness  
9 curve, which has been codified in ASME Section 11 to  
10 Appendix G for a number of years.

11 In actuality, the code itself, ASME  
12 Section 11, has caught up with the code case. The  
13 code case is now actually incorporated into the code.  
14 So in a strictest interpretation of the word, it's no  
15 longer an inconsistency with the way the code actually  
16 reads today.

17 MR. LEITCH: Okay. Good. Thank you. I  
18 understand.

19 MR. ROWLEY: Section 4.3 discusses a metal  
20 fatigue. There's three areas here, Class 1 fatigue.

21 The cumulative use factor, CUF, was predicted not to  
22 exceed one.

23 There was a commitment to further actions  
24 for the auxiliary spray line.

25 Indiana Michigan will perform one or more

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1 of the following period -- entering the period of  
2 extended operations:

3 One, perform a plant specific fatigue  
4 analysis to show a cumulative use factor remains less  
5 than one.

6 Repair the piping in the affected areas.

7 Replace the piping in the affected areas.

8 And manage the effect of fatigue for the  
9 piping by an NRC approved inspection program.

10 Non-Class 1 fatigue --

11 MR. LEITCH: Well, that's wonderful, but  
12 here again, I have a question about if this  
13 pressurizer surge line is 4.5 CUF at the end of 60  
14 years and we're going to take steps to do that list  
15 that you referred to, one of those things there --

16 DR. KUO: Dr. Leitch.

17 MR. LEITCH: -- what is it today? I mean,  
18 how do we know that it's not over one today, and  
19 should we be doing any of those things now?

20 DR. KUO: Dr. Leitch, John Fair of the  
21 staff is ready to answer.

22 MR. LEITCH: Okay.

23 MR. FAIR: Yes. I think you're referring  
24 to the environmentally assisted fatigue calculation  
25 numbers, and they've been estimated at 4.5 for the

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1 surge line using a maximum environmental factor for  
2 stainless steel.

3 The whole issue on current licensing  
4 basis, I think we covered way back in 1995. We put a  
5 SECY paper out, 95-245, describing our basis for not  
6 having a concern at this period of time. We did  
7 several things at that time. We did estimates of a  
8 number of sample plants using the environmental  
9 factors and did identify that several will exceed one  
10 during both the current licensing time frame and the  
11 extended period of time.

12 In conjunction with that, we did an  
13 assessment and said there were additional  
14 conservatisms that probably could be removed if they  
15 were to do more detailed fatigue monitoring or more  
16 detailed stress calculations on the particular  
17 components.

18 In addition to those judgmental areas, we  
19 also did a risk assessment say that the risk  
20 associated with exceeding the CUF during the current  
21 licensing basis didn't justify going back and  
22 backfitting.

23 We did a subsequent evaluation later on on  
24 GSAI-190 with a more detailed risk assessment that did  
25 the risk assessment based on the probability of

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1 initiating cracks, the cracks growing through to  
2 leakage, and the probability of failure, which really  
3 confirmed our original risk assessment that there's  
4 not a high risk associated with exceeding the CUF.  
5 However, there is a higher potential for leakage  
6 occurring on some of these lines, and that's the  
7 reason we've required further actions during the  
8 license renewal period.

9 So you know, the bottom line is we think  
10 that a lot of these lines which they're projecting  
11 fairly high CUFs based on a conservative estimate  
12 right now just to give me something will probably get  
13 refined down to a much lower value when they do more  
14 detailed calculations and they do some monitoring.

15 MR. LEITCH: But if you did those more  
16 detailed calculations now and came up with a number  
17 greater than one?

18 MR. FAIR: Then they would --

19 MR. LEITCH: You would not require them to  
20 change out the pipe.

21 MR. FAIR: Right. We couldn't justify  
22 backfitting at this period of time.

23 MR. LEITCH: It just seems like a  
24 little -- and I understand the legal implications, but  
25 it seems like just a little quirk in the logic of that

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1 argument. You know, you're running along up to 40  
2 years, and a number even a little greater than one is  
3 okay. You get to 40 years and a day, and then this  
4 number, which is over one, is no longer acceptable.

5 MR. FAIR: Yes, I think you're right with  
6 a quirk. I think if we knew a plant had a CUF greater  
7 than one right now, we would probably have them take  
8 some action to correct the problem. The thing we  
9 couldn't justify was going back and making everybody  
10 do detailed analyses at this point in time for the  
11 current licensing basis.

12 MR. LEITCH: Yeah, as a backfit.

13 MR. FAIR: As a backfit, yes.

14 MR. LEITCH: Okay. I guess I understand.  
15 I mean, this always gives me a little bit of heartburn  
16 when we get to this part here.

17 MR. BARTON: Yeah, well --

18 MR. LEITCH: It's the logic of it  
19 that's --

20 MR. BARTON: Illogical.

21 MR. LEITCH: -- that escapes me a little,  
22 but I understand what you're up against, yeah.

23 Okay. Thank you.

24 MR. ROWLEY: The commitments to further  
25 actions for the pressurizer surge line, residual heat

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1 removal piping and charging and safety injections were  
2 similar to those for the auxiliary spray line.

3 The confirmatory item was to update a  
4 final safety analysis report supplement to include the  
5 commitments.

6 Section 4.4 discusses environmental  
7 qualifications.

8 MR. LEITCH: Just before you move into  
9 4.4, there's a table there on 4.3-13 that talks about  
10 a number of plant events, and it shows zero loss of  
11 load events for 40 years, and so there's zero for 60  
12 years.

13 I don't know that loss of load events  
14 necessarily enter into the calculations, but it seems  
15 unlikely to me that there have been zero loss of load  
16 events in 40 years, unless you're saying loss of load  
17 events are something different than I'm thinking.

18 I mean, I'm thinking you run along and the  
19 generator breaker opens. That's never happened?

20 MR. ROWLEY: I refer that to the  
21 applicant.

22 MR. GRUMBIR: We would have to get back to  
23 you on that.

24 I'm sorry. I didn't use the microphone.

25 We would have to get back to you on that.

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1 We don't have that information in front of us.

2 MR. ROSEN: It's happened during a start-  
3 up test program.

4 MR. LEITCH: That's one.

5 MR. ROSEN: That's one.

6 MR. LEITCH: It just seems zero -- I'm not  
7 sure that it even enters into the calculations. So it  
8 may be a moot point, but I don't think zero is the  
9 right answer in that column.

10 MR. ROWLEY: Okay. Section 4.4, discuss  
11 environmental qualification. The applicant has  
12 adequately identified the TLAA for EQ components, and  
13 the program is consistent with GALL.

14 MR. BARTON: The thing I don't understand  
15 is the components that were originally looked at and  
16 qualified for 40 years, all right, what are they doing  
17 with those for the next 20 years?

18 I can understand the ones that got short  
19 life and you're changing them out periodically, et  
20 cetera, et cetera, but some of them were looked at and  
21 qualified for 40 years, and I don't understand what's  
22 going on for the next 20 years.

23 MR. ROWLEY: OM.

24 MR. CHOPRA: Yeah, OM Chopra from  
25 Electrical Engineering Branch.

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1           They give you three options, and one of  
2           the options is after 20 years -- I'm sorry -- after 40  
3           years you requalify those for the next 20 years.

4           MR. BARTON: Now, what is the applicant  
5           proposing to do with those?

6           MR. CHOPRA: He's taking Option 3, which  
7           is that they will, after 40 years, they will requalify  
8           it.

9           MR. BARTON: Okay.

10          MR. ROWLEY: Section 4.5, concrete  
11          containment tendon prestress. The reinforced concrete  
12          containments at D.C. Cook did not use prestressed  
13          tendons. So no TLAA analysis was required.

14          Section 4.6, container line plate and  
15          penetrations. Actions and commitments satisfy the  
16          requirements of 10 CFR 54.21(c)(1)(i). Commitment to  
17          perform additional evaluations of the containment  
18          penetrations were made.

19          The penetrations will be grouped based on  
20          their duty cycle during normal operations, including  
21          in service testing duty. Any penetration group that  
22          does not meet exemption provisions will be analyzed  
23          for fatigue using the most limiting penetration to  
24          represent the group. This evaluation will be  
25          completed prior to entering a period of extended

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1 operations and will be projected to the end of period  
2 of the stated operation.

3 The commitment was to update the SAR to  
4 capture the confirmatory items was to update the SAR  
5 supplement to capture the commitment to analyze the  
6 containment penetrations.

7 Section 4.7, seven other plant specific  
8 TLAA's, which I would like to discuss one that is  
9 unique to an ice condenser plant, and that's the ice  
10 condenser lattice frame.

11 The analysis was based on 400 operational  
12 base earthquakes.

13 MR. ROSEN: I hope not.

14 MR. ROWLEY: Based on past operational  
15 experience of Cook and other plants, the operational  
16 basis of earthquakes limit will not be surpassed  
17 during the period of extended operations. Fatigue  
18 analysis remains valid in accordance with 10 CFR  
19 54.21(c)(1)(i).

20 CHAIRPERSON BONACA: How many have we had  
21 to date?

22 MR. BARTON: Three hundred and ninety-  
23 nine.

24 (Laughter.)

25 MR. ROSEN: In 40 years, you'd have one a

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1 month. Is that right, almost?

2 (Laughter.)

3 MR. ROWLEY: In summary, in the TLAAs, the  
4 applicant has identified the appropriate TLAAs and has  
5 demonstrated that the TLAAs will remain valid for the  
6 period of extended operation in accordance with 10 CFR  
7 54.21(c)(1)(i). The TLAAs have been projected to the  
8 end of the period of extended operation in accordance  
9 with 10 CFR 54.21(c)(1)(ii). And aging effects will  
10 be adequately managed for the period of extended  
11 operations in accordance with 10 CFR 54.21(c)(1)(iii).

12 DR. SHACK: You got one past me so fast  
13 there I almost lost my thing. On the leak before  
14 break, the only aging mechanism that's addressed is  
15 the aging of the cast stainless steel. Why is there  
16 absolutely no mention of the possibility of the stress  
17 corrosion cracking of the welds and the weld butters?

18 Neither the license renewal application  
19 nor the SER discusses it at all.

20 MR. ROWLEY: I'd like to ask the expert to  
21 address that.

22 MR. REICHEL: Sir, could you repeat the  
23 question, please?

24 DR. SHACK: This is a plant with Alloy 182  
25 butter and weld at the vessel at the piping joint,

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1 which again, from the summer experience has exhibited  
2 stress corrosion cracking, and so it would seem to me  
3 that's a potential aging mechanism that has to be  
4 addressed in the leak before break analysis, and  
5 there's not word one, not even, you know, that it's  
6 going to be covered in some later aging management  
7 program developed by MRP.

8 MR. REICHELDT: Excuse me. My name is Eric  
9 Reichelt. I'm from EMCB.

10 As far as the discussion about 82.182  
11 welds, it is covered in the Alloy 600 aging management  
12 program. Even though it is a new program, a new AMP,  
13 this is an ongoing industry MRP, EPRI, NRC certainly  
14 initiative that's being discussed and being revised on  
15 an ongoing basis.

16 So the applicant has identified these  
17 welds in an AMP, in the Alloy 600 aging management  
18 program, and they've identified to us and committed to  
19 us that this new AMP would be finalized and provided  
20 to the NRC staff three years prior to the end of their  
21 operating license.

22 DR. SHACK: Yeah, I sort of figured. I  
23 was just a little surprised it wasn't mentioned.

24 MR. REICHELDT: Okay. Well, I guess we  
25 could address that or identify that, that there isn't

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1 an AMP for that.

2 DR. SHACK: Yeah, and will be covered by  
3 the AMP.

4 MR. REICHEL: Okay.

5 MR. RINCKEL: Mark Rinckel from Areva.

6 It is covered in page 4.7-2 of the  
7 application. So if you look at the original  
8 application, 4.7-2. Under the LBB under the fatigue  
9 flaw growth, that particular weld is addressed.

10 DR. SHACK: Okay.

11 MR. RINCKEL: It is true that it will be  
12 included in the Alloy 600 program as well, but I don't  
13 think it was mentioned in the SER in Section 4.7, but  
14 we did put it in the application.

15 MR. ROWLEY: In conclusion, actions have  
16 been identified and have been or will be taken such  
17 that there is reasonable assurance that activities  
18 will continue to be conducted in a renewal term in  
19 accordance with the current licensing basis.

20 The applicant has met the requirements for  
21 license renewal, as required by 10 CFR 54.29(a).

22 DR. SHACK: Not in 4.72.

23 MR. ROWLEY: Page 4.72.

24 DR. SHACK: Oh, page 4.72. Ah.

25 MR. LEITCH: I have a couple of other

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1 questions. On the license renewal application, page  
2 4.3-8 and 9, it lists six locations where the issue is  
3 CUF, and then at the top of the page 4.3-9, it says,  
4 "Of the six limiting locations evaluated, four items,  
5 two, four, five, and six, have CUFs less than one when  
6 extrapolated to 60 years."

7 It seems to me based on the table there  
8 that location one also has a CUF of less than one when  
9 extrapolated to 60 years unless I'm missing something.  
10 Is that just a typo on what page or is there something  
11 wrong with my understanding of it?

12 MR. ROSEN: I'd just ask Richard. Could  
13 you?

14 MR. GRUMBIR: What page are you on?

15 MR. LEITCH: I'm on page -- this is the  
16 license renewal application. I'm on page 4.3-8. When  
17 you get it I'll repeat my question.

18 MR. GRUMBIR: Okay. I'm on 4.3-8.

19 PARTICIPANT: We're on 4.3-9.

20 MR. LEITCH: Okay. Either one. The  
21 bottom of 4.3-8, there are five, six rather locations  
22 discussed, reactor vessel shell and so forth. Do you  
23 see where I am?

24 PARTICIPANTS: Yes.

25 MR. LEITCH: And then at the top of page

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1 9 it says of the six limiting locations evaluated,  
2 four, that is, items two, four, five, and six, have  
3 CUFs less than one when extrapolated to 60 years.

4 Is it not also true that location one also  
5 has a CUF of less than one when extrapolated to 60  
6 years?

7 MR. GRUMBIR: Yes, it does.

8 MR. LEITCH: Okay. So it just should be  
9 a one in parentheses there on that first line.

10 MR. GRUMBIR: Yes, if you looked at the  
11 bottom of page 4.3-9, the table. Yes, that's true.

12 MR. LEITCH: Okay. So it's just an  
13 omission from the sentence up at the top.

14 MR. RINCKEL: Yeah.

15 MR. LEITCH: Okay.

16 MR. RINCKEL: Yeah, basically the faradic  
17 items were shown to be good, and that would be the  
18 reactor vessel shell and the inlet and outlet nozzles.  
19 So those would be those locations are fine. It winds  
20 up being the stainless steel items that would exceed.

21 MR. LEITCH: Right.

22 MR. RINCKEL: Right, and if item one  
23 wasn't identified, that was an omission.

24 MR. LEITCH: Yes, okay. Thank you.

25 CHAIRPERSON BONACA: Okay.

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1 MR. LEITCH: Well, I guess another  
2 question on --

3 CHAIRPERSON BONACA: Go ahead.

4 MR. LEITCH: -- page 4.1-7, there is a  
5 table there, and it says at high energy line break  
6 postulation based on fatigue cumulative usage factor  
7 is not applicable. I guess it's just my  
8 understanding, but I don't understand why it's not  
9 applicable. Can anyone help me with that?

10 MR. GRUMBIR: I wasn't sure if that was a  
11 question for us or for the staff.

12 MR. RINCKEL: PT, do you want me to  
13 answer?

14 CHAIRPERSON BONACA: Oh, go ahead.

15 MR. RINCKEL: Okay. The reason it's not  
16 applicable is because Cook is a B 31-1 plant. So it  
17 had no usage factors for any of the piping to begin  
18 with, and the criteria for high energy line break is  
19 for usage factors that exceed .1, and so Cook had no  
20 usage factor basis to begin with.

21 MR. LEITCH: Okay.

22 MR. RINCKEL: Okay?

23 MR. LEITCH: Thanks. I appreciate that  
24 explanation.

25 CHAIRPERSON BONACA: Okay. Any other

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1 questions for the staff?

2 (No response.)

3 CHAIRPERSON BONACA: If not, what I would  
4 like to do is go around the table and, you know, get  
5 members' views and start the discussion. I'm  
6 interested in having members' perspectives both  
7 regarding what should be presented at the full  
8 meeting, and that will be in a few months and, second,  
9 what they view as the relevant issues here that may be  
10 mentioned in the report that we write.

11 With that, I'll start with you, Bill. I  
12 realize you missed some parts of the briefing.

13 DR. SHACK: I missed a good piece of it.  
14 I would have liked to have heard more about the FAC  
15 thing. I think that will come up. Maybe we'll see a  
16 written resolution of that issue, but that was  
17 certainly the issue that caught my eye just because we  
18 have a hard time understanding FAC programs in  
19 general.

20 CHAIRPERSON BONACA: Yes.

21 DR. SHACK: And if the resolution is the  
22 licensee's approach is satisfactory, I'd like to hear  
23 a discussion of that.

24 CHAIRPERSON BONACA: And this will be  
25 during the full meeting.

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1 DR. SHACK: The full committee.

2 CHAIRPERSON BONACA: Okay.

3 DR. KUO: So, Dr. Shack, you are saying  
4 that both generically and also --

5 DR. SHACK: Well, yeah. I mean we always  
6 have a little difficulty understanding just how FAC  
7 programs work, and in this one, you know, an issue  
8 came up, and you know, it may have been a perfectly  
9 good discussion of how it was resolved. I just missed  
10 it.

11 DR. KUO: Okay.

12 DR. SHACK: And others may feel it is  
13 perfectly well addressed.

14 MR. ROSEN: I think we said as a  
15 committee, not in a license renewal context though,  
16 but that as a committee we wanted to hear something  
17 about FAC in general.

18 DR. SHACK: I mean, FAC is a good way to  
19 lose a pipe

20 MR. ROSEN: Yeah, and we were looking to  
21 having a specific session on FAC, not in the license  
22 renewal context but overall. Of course, license  
23 renewal is one of the places where it applies  
24 specifically.

25 MR. SANTOS: I'm trying to work with a

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1 meter on setting up a committee (speaking from an  
2 unmicked location) to learn more about FAC programs  
3 and address that.

4 CHAIRPERSON BONACA: All right. Good.  
5 Any other comments, Bill?

6 DR. SHACK: No.

7 CHAIRPERSON BONACA: No. Then Graham.

8 MR. LEITCH: Well, there was one other  
9 thing I didn't get a chance to mention, but D.C. Cook  
10 has a system that they call LTW, which is, I guess,  
11 basically the domestic water supply system, the  
12 municipal water supply system, and the chemistry  
13 control program was not credited in the license  
14 renewal application.

15 And I guess it reminds me a little bit of  
16 the diesel fuel oil monitoring program. In other  
17 words, in both of those cases you're saying, well, the  
18 diesel, we have a good fuel supplier. He gives us  
19 good stuff. So we don't have to worry about MIC.

20 And here it seems to me you're saying,  
21 well, we get this water from the municipal water  
22 company. It's good stuff. We haven't had a problem  
23 in lo these many years. So we don't have to worry  
24 about it.

25 And I guess I have had experience with

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1 both these issues really where the fuel oil  
2 manufacturer/supplier without our knowledge changes  
3 some of the his process that gives us a problem, and  
4 with the municipality -- boy, that's hard to say at  
5 five o'clock at night -- with the municipality  
6 changing their practices and procedures without the  
7 plant's knowledge.

8 I mean, you know, I don't know what kind  
9 of additives they put in the water. Is there fluoride  
10 in it?

11 MR. BARTON: They must test their potable  
12 water.

13 MR. LEITCH: Yeah, but they don't credit  
14 the -- I'm sure they do, but they don't credit the --  
15 at least the way I read the words, they don't credit  
16 the chemistry control program in the license renewal  
17 application. So although they do it, you know, I'm  
18 sure they --

19 MR. BARTON: I see what you're saying.

20 MR. LEITCH: -- do it, but they're not  
21 crediting it.

22 MR. BARTON: Yeah, I don't imagine they  
23 do. Otherwise they'd have a bunch of sick employees  
24 on their hands maybe.

25 MR. LEITCH: Yeah, right, yeah.

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1 MR. ROSEN: There are state laws that  
2 require --

3 MR. LEITCH: But I just don't understand  
4 why it's not --

5 MR. BARTON: Why it's not a credit --

6 MR. LEITCH: -- renewal. We're saying  
7 it's not licensed renewal because we don't control it,  
8 but it seems to me that's all the more reason for  
9 putting it in, not a lesser reason.

10 So I guess what I'm saying is trying to  
11 make maybe a generic issue out of this, is to say that  
12 just because something is coming from an outside  
13 supplier and has been good lo these many years is not  
14 reason to assume that it's going to be good for the  
15 remaining life of the plant.

16 And some of these suppliers can change  
17 some things that impact you without even, you know,  
18 you being aware of it and without them being aware  
19 that, oh, that might have some impact on this power  
20 plant that we're feeding.

21 MR. ROSEN: Well, I have a little bit of  
22 an additional take on that question in that it seems  
23 to me that in that circumstance where your performance  
24 has been good over 20 years and you're saying  
25 therefore we don't need to do anything anymore, I

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1 think you need to do some confirmatory inspection,  
2 like maybe a one-time or two times during the  
3 remaining course of the year just to make sure that if  
4 something is changed that you do detect it soon enough  
5 to or know about it soon enough to go see what the  
6 impact is.

7 CHAIRPERSON BONACA: Yeah, but you see, I  
8 don't see why the license renewal should be an  
9 initiator of these actions. I mean, you know, if the  
10 licensee has been allowed to go for 40 years of  
11 operation without doing his verification, et cetera,  
12 so even now for the next ten years they don't have any  
13 obligation, why go into license renewal would develop  
14 a requirement?

15 I recognize all the points you made, okay,  
16 the fact that there is no guarantee that the supplier  
17 would not change. I don't see why the license renewal  
18 would be, you know, a motivator for an action like  
19 expecting a change of that nature. It would be  
20 applicable to the current licensing payer, too.

21 MR. ROSEN: Exactly right.

22 MR. BARTON: It's not a place to add a new  
23 requirement.

24 CHAIRPERSON BONACA: Yeah.

25 MR. ROSEN: So I can't say you're wrong

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1 about that. You're right. So the question is for PT  
2 to go talk to the relevant authorities in the current  
3 term and say, "Look. This came up in license renewal,  
4 but something needs to be done in the current term.

5 DR. KUO: I'll get back to you.

6 MR. ROSEN: That's what you'd call  
7 relevant issue for the current NRC staff.

8 CHAIRPERSON BONACA: For the current NRC  
9 staff.

10 Regarding the application in general?

11 MR. LEITCH: Yeah, the other -- I guess my  
12 biggest problem with the whole application is that a  
13 lot of what we're saying here depends upon keeping  
14 future commitments, and one of the things that I look  
15 at when I look back to see, you know, how well have  
16 they kept commitments in the past, and I see a couple  
17 of pretty important exceptions here to keeping  
18 commitments.

19 One is having to do with these boral  
20 samples, and the other one is having to do with the  
21 AFW piping, and I guess I'd like to hear a little more  
22 at the full committee meeting about your commitment  
23 tracking process, what you've done to improve that,  
24 what is the role of quality assurance in that whole  
25 process because we really need to understand that the

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1 commitments are going to be managed properly.

2 CHAIRPERSON BONACA: Okay. That's  
3 regarding really the full committee meeting and what  
4 you would like to see there.

5 MR. LEITCH: Right, yeah.

6 DR. SHACK: Mario, can I inject one more  
7 thing?

8 CHAIRPERSON BONACA: Please.

9 DR. SHACK: Again, it may have been  
10 discussed. It just seemed to me there were an awful  
11 lot of ARI --

12 PARTICIPANT: RAI.

13 DR. SHACK: -- request for -- RAIs in this  
14 thing for, you know, a license renewal that's pretty  
15 far down the pike. You know, we've been sort of  
16 accustomed to these things coming in cleaned and  
17 polished. You know, is there something in the process  
18 that made this so unusual?

19 MR. BARTON: That was one of mine. I  
20 think what causes that, what caused it, if you look at  
21 what most of the RAIs were about, it was the staff  
22 asking, you know, "What have you got covering your  
23 system? Which components? Where's your boundary,  
24 whatever?"

25 And I think what led to a lot of that was

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1 the applicant using the spaces concept.

2 CHAIRPERSON BONACA: Spaces concept, yes.

3 MR. BARTON: All right. It ends up with,  
4 well, where do you define it and how much and what  
5 components are in it, and then they used a lot of  
6 generic components in their tables, and you say,  
7 "Well, which valves are you talking about?" or  
8 whatever.

9 So a lot of the RAIs were the result of  
10 that that I found, which made the review a lot harder  
11 to do, too. Like I say, it used to --

12 CHAIRPERSON BONACA: Because we've seen  
13 another example of that before.

14 MR. BARTON: -- used to seeing at this  
15 point, you know, not that much. The staff is asking,  
16 and I think that was the reason for it.

17 CHAIRPERSON BONACA: Yes, because, in  
18 general, when I look at their aging management  
19 program, you know, I see very much similarities to the  
20 previous application we have seen recently, I mean,  
21 but I look at Arkansas 2 and at Farley. I almost see  
22 the same exceptions on the part of D.C. Cook the same.  
23 So they're really on the same line pretty much, I  
24 mean.

25 DR. KUO: Yeah, actually ANO 2 and D.C.

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1 Cook use the same consultant, if you will.

2 CHAIRPERSON BONACA: Oh, well, they look  
3 like it.

4 MR. ROSEN: Entergy.

5 DR. KUO: Yeah, to that end, Dr. Shack, we  
6 are trying to send the message out these days that,  
7 you know, the application itself maybe should be more  
8 clear, more precise, so that we don't have to ask this  
9 type of a question again and again.

10 DR. SHACK: But was this prepared with an  
11 earlier version of the NEI guidance? You know, this  
12 one just seems to me a point a little deviating from  
13 the current run.

14 MR. BARTON: From what we've seen  
15 recently.

16 DR. SHACK: Yeah.

17 DR. KUO: Yeah, well, if I recall right,  
18 the most recent NEI guidance was developed after this  
19 pilot plant. D.C. Cook is the third pilot plant that  
20 we have due to apply the new process.

21 So the more recent ones that will follow  
22 the NEI 95-10, Revision 5 in that format I hope is  
23 going to be better, easier, but the more important  
24 thing is that for the applicants to pay more attention  
25 to the clarity of their application. So many

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1 questions basically is the clarification.

2 So we don't need that kind of questions to  
3 ask time and again. So we've been sending some  
4 message to our future applicants: hey, there are  
5 certain things that we don't want to argue anymore.  
6 We don't want to see anymore.

7 So I hope from now on the applications  
8 will be easier reading for everybody. Of course,  
9 that's my hope.

10 DR. SHACK: It looked like it was going  
11 that way for a while.

12 MR. LEITCH: I guess just one other thing,  
13 and just to bring this up again in summary fashion,  
14 but it seems to me that, you know, six applicants ago  
15 or so we started accepting programs that were not  
16 fully developed because of technical reasons. For  
17 example, we had testing of non-EQ medium voltage  
18 cables, and we said, well, industry is still working  
19 on a program for exactly how to test these things.

20 So when the program is developed, they'll  
21 review this program with the NRC, and staff will  
22 approve it, and then they'll go ahead and do that.

23 I think that's a good reason for pushing  
24 the development of that program into the future.  
25 There's still some technical work ongoing there.

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1           But, for example, this wall thinning  
2 program, there's nothing there. The program hasn't  
3 been developed. Well, why not? I mean, there's no  
4 technical reason that I know of. I mean, we know how  
5 to measure wall thickness.

6           Why are we accepting a wall thinning  
7 program that is absolutely nothing but a commitment to  
8 develop a wall thinning program in the future? Why  
9 are we accepting such a thing? Why not require  
10 applicants to have something that has some meat in it,  
11 something that we can review?

12           I mean, if there's a technical reason, you  
13 know, that there's some new development that's  
14 necessary to support that program, I can understand  
15 that, and I think that is the case in some of this  
16 cable testing work, but wall thinning? We know how to  
17 measure walls.

18           MR. BARTON: Well, when you're thinking  
19 about it it's buried components. You don't have a  
20 program for that yet, to develop that, and I'll  
21 implement it some day before we extend our operations.  
22 Most people have a program right now for when you dig  
23 up stuff, what you look at or whatever, or I'm going  
24 to randomly inspect everything so that whatever.

25           The staff bought off on that one, too.

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1 MR. LEITCH: Yeah, I'm not even  
2 necessarily talking about implementation, but just  
3 even the development or the program. I mean, it seems  
4 to me that we may be creeping into accepting  
5 commitments to develop program in the future when  
6 there's no real good reason to push it into the  
7 future. Why not do it now?

8 I don't know that that's specifically a  
9 D.C. Cook issue. What I'm saying is I'd just like to  
10 see in these last few applications a tendency to kind  
11 of drift in that direction.

12 CHAIRPERSON BONACA: You're not expecting  
13 them to have a fully developed procedures, but simply  
14 to have already a program conceptually developed and  
15 presentable so that we can talk about the elements,  
16 and oftentimes in these programs we are not really  
17 expecting so much. I mean it is more a decision of  
18 whether or not you should have a certain type of exams  
19 or not or things of that kind.

20 So I agree. On the other hand, the  
21 clarification we got from Mr. Kuo before was that if  
22 you go to the SER, a lot of these programs that in the  
23 audit were defined as, you know, not fully defined yet  
24 in the SER were defined.

25 DR. KUO: Now, in this case actually I was

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1 told that we had the revised SER to make it clear, but  
2 apparently it is not clear enough. So when you used  
3 yours, we were confused.

4 But it's a good comment. I understand  
5 that is a generic concern. As a matter of fact, I  
6 talked to our branch chiefs about this very thing.  
7 Okay? And we all agreed, as a matter of fact, that if  
8 we have this kind of situation, too many of them, say,  
9 one or two is one thing. If I have eight or nine,  
10 that's totally a different thing.

11 So we all agree that if we have too many  
12 of them, it's not going to work.

13 MR. ROSEN: PT, one way not to end up with  
14 eight or nine is to incentivize the development of the  
15 programs by saying in the case where you are looking  
16 to having a future program, that's fine as long as you  
17 do this onerous inspection now. In other words, you  
18 can continue this onerous inspection now until you  
19 have a new program and then we'll renew the new  
20 program and then we may let you change.

21 MR. BARTON: I vote for Steve.

22 MR. ROSEN: Well, you know, I have  
23 children. I had, you know, and so you have to give  
24 some incentive.

25 CHAIRPERSON BONACA: Okay. So any other

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1 comments at this stage?

2 MR. BARTON: Now, Steve, you're going to  
3 make the ice condenser comment.

4 MR. ROSEN: Yeah, I have two comments.

5 CHAIRPERSON BONACA: Well, I would like to  
6 go to Vic first.

7 DR. RANSOM: I don't have any comments.  
8 One observation is when we visited Cook, they were  
9 talking a lot about implementing the SIC sigma  
10 management program which is oriented towards improving  
11 quality, and it sounds like there's still a ways to  
12 go.

13 CHAIRPERSON BONACA: And from what? I  
14 mean --

15 DR. RANSOM: I don't know. We didn't hear  
16 anything about that today. I was kind of surprised in  
17 a way.

18 CHAIRPERSON BONACA: But that is not a  
19 specific program for license renewal.

20 DR. RANSOM: Or management, how they're  
21 going to carry out this program.

22 CHAIRPERSON BONACA: Yeah, that would not  
23 be --

24 DR. RANSOM: But it is interesting. There  
25 are quite a long list of commitments that are to be

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1 satisfied.

2 CHAIRPERSON BONACA: Okay. Steve.

3 MR. ROSEN: I have two. One, a relevant  
4 issue, I think, is for the applicant, is that I heard  
5 discussion. I think John Barton brought i up. The  
6 system walk-down management and the effectiveness of  
7 system walk-downs is something that's central to the  
8 license renewal application in the staff's SER, and  
9 yet we have indications that (a) it's difficult to  
10 manage such a program and (b) it may not be effective  
11 in certain cases.

12 So I would think that an applicant would  
13 do themselves a favor if they came in and talked about  
14 managing the system walk-down program and how  
15 effective it can be if properly managed and its  
16 limitations as well. That's one, I think.

17 CHAIRPERSON BONACA: This is for the full  
18 committee.

19 MR. ROSEN: The full committee. You know,  
20 the basis for doing it is that it's referenced in many  
21 places in the application as being credited.

22 DR. KUO: So basically you want them to  
23 come in with some experience.

24 MR. ROSEN: Tell us how they're going to  
25 manage this program, how they manage it now, what

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1 their experience has been, the difficulties, and just  
2 give us a feeling of comfort that they can, in fact,  
3 manage such a program and we can credit it for being  
4 fully effective.

5 CHAIRPERSON BONACA: Yeah, good.

6 MR. ROSEN: And the final thing that  
7 Graham mentioned I'd cover. I don't want to go over  
8 all of it again, but that aging management program for  
9 the ice condenser, it's possible that we did do a lot  
10 of this in the Duke applications McGuire and Catawba,  
11 I guess, but I don't remember it. Maybe I wasn't  
12 here, and I would certainly benefit from a full  
13 exposition on ice condensers and how one treats them  
14 in the aging management program so that we can be sure  
15 that we have the right confidence in those systems as  
16 we go forward.

17 CHAIRPERSON BONACA: Yes, and we asked  
18 for, in fact, a more or a broader presentation at the  
19 full committee, will hear that.

20 Any suggestions regarding the letter that  
21 we prepare, any issues specific to this plant that we  
22 should highlight?

23 MR. ROSEN: Well, depending on what we say  
24 here in this ice condenser presentation and the  
25 system walk-down presentation, I would expect we

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1 should say something about both of those things.

2 Now, they're not going to be a ground I  
3 don't think to say, well, we don't think they should  
4 get a license extension or renewal, but it should be  
5 pointed out to them and anybody who comes along after  
6 what we are listening to and crediting in our minds in  
7 terms of what will be done in this plant to continue  
8 to maintain the licensing basis.

9 CHAIRPERSON BONACA: Yeah. Plus, I mean,  
10 I would like to point out to the other members, you  
11 know, if you have any things that come to mind that  
12 you would like to highlight of concern to you or a  
13 significant issue in favor of the plant, please extend  
14 me a message, an E-mail, and I will reflect it in the  
15 draft letter whenever I put it together.

16 So John.

17 MR. BARTON: Well, Steve got one of mind.  
18 The other one is -- well, I had two more, I guess.  
19 Either the staff or the applicant come in and address  
20 this spaces approach so that the full committee can  
21 hear, you know, that approach because, you know, my  
22 problem with that is that creates a heck of a lot of  
23 questions, but I'm not convinced that's, you know, the  
24 most effective way to do this thing. It's the first  
25 time I've heard it.

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1                   Maybe you buys have heard space approach  
2 before.

3                   CHAIRPERSON BONACA: I thought it was the  
4 second time we'd seen it.

5                   MR. BARTON: I haven't heard it before.

6                   MR. ROSEN: It's not the first time I've  
7 seen it.

8                   DR. KUO: Well, many applicant uses spaces  
9 approach for cable monitoring.

10                  MR. BARTON: Well, yeah, I've seen it for  
11 cable monitoring, but they used it for everything  
12 here, and you know, they need some discussion on that,  
13 why it's good or why it's bad or you know.

14                  The other thing, I don't know whether the  
15 full committee is familiar with the audit review  
16 report in process, but I think if they're not thought  
17 ought to probably hear about that because, you know,  
18 in my first glance I thought I'm reading the LRA  
19 again, but then as you get into it, you realize, hey,  
20 that's a pretty effective way to do a checks and  
21 balances on what the applicant is doing.

22                  CHAIRPERSON BONACA: That's an important  
23 point because they haven't -- I mean, the committee  
24 hasn't seen it.

25                  MR. BARTON: I think they probably ought

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1 to.

2 CHAIRPERSON BONACA: Because, I mean, the  
3 first three dates we haven't gone to the full  
4 committee yet.

5 MR. BARTON: Okay.

6 CHAIRPERSON BONACA: Okay. So that's  
7 quite significant, and so we'll bring this up.

8 MR. BARTON: That's it

9 CHAIRPERSON BONACA: Yeah, I would like to  
10 say, first of all, you know, there was plenty of  
11 documentation that was very well provided. I mean, I  
12 realize that the more documentation we get, the more  
13 we're challenged in integrating the documentation  
14 ourselves.

15 For example, you know, I look even more  
16 carefully now to the audit because it's very helpful,  
17 very insightful, but then the audit is written  
18 differently than the SER. So when I go to the SER  
19 it's not clear to me that something hasn't been added.  
20 In fact, as you confirmed before, something is added.  
21 Some issues are resolved.

22 So the audit may say this is still open.  
23 By the time you go to the SER, it's closed. Now, if  
24 I read both, it's not clear to me what has been done  
25 exactly. I mean, because one doesn't refer to the

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1 other or it maybe refers to it in some statement and  
2 so on and so forth.

3 I guess the point I'm going to, a better  
4 integration of those documents in the future, it would  
5 help us review it. It would help any reader and would  
6 also make it clear that maybe more progress has been  
7 made than was reflected in intermediate documents just  
8 to give you a sense of what a reader and why you get  
9 some of the comments from the members here.

10 The application by now is a historical  
11 document. The application has been changed even by  
12 the licensee, but it doesn't have any documentation of  
13 the changes. I mean they simply have accepted  
14 additional components in because of the RAIs. They've  
15 accepted changes to the programs. They're not  
16 reflected in the LRA, but that's what I got. All I've  
17 got is my license renewal application.

18 Then I have the audit, and the audit now  
19 brings a significant review of the program and so on  
20 and so forth. I can understand the changes, but  
21 that's only an intermediate step.

22 Then I have the inspection reports that  
23 are coming to us, and now there is the SER at the end  
24 of it. Okay? It's to the degree to which, you know,  
25 you can integrate audits and inspection in the SER

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1 maybe in a more concise fashion. It will help us a  
2 lot.

3 I'm not criticizing at all what we're  
4 providing. I'm just saying that what information  
5 there is, the more challenging it is to review it.

6 DR. KUO: Yeah, I'm happy to tell you that  
7 the effort is ongoing to try to integrate the two  
8 documents better so it's easy for a reader to review,  
9 but you also bring up one point there to say that this  
10 is an intermediate step and you don't have the  
11 information about the system they brought in, why, the  
12 basis, and all of that.

13 We don't have the RAI necessarily for that  
14 kind of question. This is one benefit we tried to get  
15 from the audit process. We said, you know, we send  
16 the people to the site and then we interact face to  
17 face with the applicant's staff. So they give us  
18 answer, and we ask questions. They give an answer.  
19 So there's no more RAIs, but we don't have that  
20 initial step that you were talking about, that  
21 exchange between the staff and the applicant.

22 CHAIRPERSON BONACA: All that I can say,  
23 however, is that I can take on any given issue and  
24 I'll find something about a given issue in the  
25 application, something in the audit, something in the

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1 inspection maybe, and something in the SER, and  
2 they're not the same thing.

3 Okay. So now I can't possibly expect that  
4 the committee here does this for all of the issues and  
5 so on and so forth. That's why, you know, you find  
6 the question on our part because we are confused about  
7 what is being closed.

8 Well, it hasn't been closed. What program  
9 is only partially developed as the audit says or has  
10 been fully developed and accepted totally in the SER?  
11 I mean that's really where the challenge to someone  
12 is, and I think from the perspective of record, I  
13 think the challenge would be there also at the plant  
14 ten years from now before they step into license  
15 renewal; you know, the NRC 20 years from now when  
16 you're going to review what promises were there and  
17 what has happened and so on and so forth.

18 So it would be possible if the next year  
19 or so you start to integrate these documents.

20 DR. KUO: Yeah, we will take a closer look  
21 at it and see if we can't improve it. Some of the  
22 things, because so many people are involved, it just  
23 is difficult.

24 CHAIRPERSON BONACA: I know. For one, I'm  
25 sure that you have requirements, but you know, the

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1 size of the SER still boggles my mind because there,  
2 of course, you document the whole interaction and so  
3 on and so forth, but it makes it so voluminous and not  
4 itself to trace back just what you want to know or I  
5 want to know.

6 So anyway, that's --

7 DR. KUO: I'm afraid you haven't seen  
8 anything yet.

9 (Laughter.)

10 CHAIRPERSON BONACA: Now, don't tell me  
11 that because that's not what I wanted to hear.

12 MR. ROSEN: I think you have to keep it in  
13 context also. We are considering licensing these  
14 plants for another 20 years. This is a big step.

15 CHAIRPERSON BONACA: Now, regarding the  
16 application, I want to say that, you know, I felt that  
17 they have made a reasonable case for the license  
18 renewal. I think that, you know, I've seen exceptions  
19 to many of the programs, very similar to what we have  
20 seen for Arkansas, or the same actually and also for  
21 Farley. I mean down the line, and I think that the  
22 concern that has been brought up with commitments and  
23 also fulfilling those commitments, et cetera, are a  
24 good concern because there are so many commitments  
25 here to be, you know, implemented.

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1           But I was impressed by the presentation on  
2 the improvements, enhancement to the plant. Clearly,  
3 that's valuable information for us because it tells us  
4 beyond just the initiatives of license renewal. It  
5 tells us what the plant is thinking of doing.

6           I mean, so the fact that they're replacing  
7 the heads, they're replacing the steam generators,  
8 they're adding or improving equipment, it's an  
9 important message for us.

10           I am saying it because some licensees are  
11 open, like, for example, D.C. Cook has been today,  
12 that they opened it up and they told us. Some  
13 licensees seem to be very shy. I can't believe still  
14 that Arkansas had only two proposed changes in the  
15 future. But if I remember one of the slides, it was  
16 very, very shy. I mean maybe they didn't want to over  
17 commit or whatever. I don't know, and maybe -- don't  
18 quote me on the two -- but I think there were few.

19           I think it's important to communicate with  
20 the licensees when they come. That's a positive thing  
21 for us to see. You know, we are not expecting to set  
22 the expectations on them. It just gives us a measure  
23 of how they are planning for license renewal.

24           MR. ROSEN: And those are not commitments.  
25 Those are not licensing commitments.

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1 CHAIRPERSON BONACA: That's right. It's  
2 just information.

3 MR. ROSEN: It's for perspective for us.

4 CHAIRPERSON BONACA: And again, I made a  
5 reference to Arkansas. That is because I remember  
6 their presentation didn't contain as much information.  
7 Okay? So don't hold me to the number two for  
8 improvements.

9 But with that I don't have any additional  
10 comments. Anything else?

11 (No response.)

12 CHAIRPERSON BONACA: Anything else from  
13 the public?

14 (No response.)

15 CHAIRPERSON BONACA: Nothing, and from the  
16 staff? If nothing, then I think we will adjourn the  
17 meeting.

18 (Whereupon, at 5:30 p.m., the meeting was  
19 concluded.)

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