

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: Advisory Committee on Reactor Safeguards
Plant License Renewal Subcommittee

Docket Number: (not applicable)

Location: Rockville, Maryland

Date: Tuesday, September 30, 2003

Work Order No.: NRC-1097

Pages 1-144

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

PLANT LICENSE RENEWAL SUBCOMMITTEE

+ + + +

H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2

+ + + +

TUESDAY,

SEPTEMBER 30, 2003

The Meeting came to order at 12:30 in room T2B1 of White Flint Two, Graham M. Leitch, Chairman, Presiding.

PRESENT:

GRAHAM M. LEITCH	ACRS Member
MARIO V. BONACA	ACRS Member
STEPHEN L. ROSEN	ACRS Member
JOHN D. SIEBER	ACRS Member
B.P. JAIN	ACRS Staff
JOHN BARTON	ACRS Consultant
P.T. KUO,	Program Director,
	License Renewal

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

(12:30 p.m.)

CHAIRMAN LEITCH: This is a meeting of the Advisory Committee on Reactor Safeguard, Subcommittee on Plant License Renewal. I'm Graham Leitch, Chairman of the Subcommittee. The Subcommittee Members in attendance are Mario Bonaca, John Sieber, Steve Rosen, I think, will be joining us shortly, but he's not here at the moment, and our consultant, John Barton.

The purpose of this meeting is to review the License Renewal Application from H.B. Robinson, associated draft inspection plan evaluation and review by the NRC staff. The Subcommittee will hear presentations by and hold discussions with representatives of the NRC Staff, Carolina Power and Light, and other interested persons.

The Subcommittee will gather information, analyze relevant issues, formulate proposed positions and actions as appropriate for deliberation by the Full Committee. B.P. Jain is the Designated Federal Official and ACRS Staff Cognizant Staff Engineer. 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.

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1 Transcripts of the meeting will be made available.

2 I'll ask that the speakers first identify
3 themselves and speak with clarity and volume so they
4 may be heard. We have received no written comments or
5 requests for public comment.

6 I should say that, by way of introduction,
7 in the past we have spent perhaps a full day on recent
8 cases, perhaps quarters of the day with our
9 Subcommittee reviewing these license renewals, trying
10 to improve the efficiency of the process, trying to
11 discuss, to review, so if we're still here at 8:00
12 tonight, we'll know we have failed.

13 SPEAKER: You will know --(Laughter.)

14 CHAIRMAN LEITCH: But we really think that
15 this is possible. We do not want to shortchange
16 anyone on time, but we do think it should be possible
17 to eliminate some of the boilerplate, and some of the
18 more routine matters, and get right to the heart of
19 the issue, and that's how that would happen. So
20 without any further ado, Mr. Kuo.

21 DR. KUO: Thank you, Dr. Leitch. My name
22 is P.T. Kuo. I'm the Program Director for License
23 Renewal Program. Today the staff will be reporting on
24 its safety evaluation of H.B. Robinson Steam Electric
25 Plant Unit 2. The Project Manager for this safety

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1 review is Sikhindra Mitra. He will be assisted by Dr.
2 Mario Cora. They will lead the presentation today,
3 but they will call upon the staff experts to answer
4 questions, and most of the key reviewers are sitting
5 in the audience. They are ready to answer any
6 questions.

7 Briefly, the staff issued the staff
8 evaluation, the safety evaluation report with open
9 items on August 25th, 2003. There were only two open
10 items in the safety evaluation report, and since then
11 these two open items have been resolved. As usual,
12 we have also --

13 SPEAKER: Excuse me. It was my impression
14 that there were more open items. There were a number
15 of --

16 DR. KUO: There are 29 confirmatory items.

17 SPEAKER: Some of those confirmatory items
18 have --

19 DR. KUO: Well, the issues are resolved.
20 That's all I have to say with that. I would like to
21 turn over the floor to the applicant.

22 MR. STEWART: Good afternoon. I'm Roger
23 Stewart, and I am the Technical Lead on the Robinson
24 Renewal project. This afternoon, I'm going to go over
25 some background, some of the operating experience.

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1 I'm going to discuss a little bit about our scoping
2 methodologies, and how we relate it to GALL, and I'm
3 going to discuss our commitments and commitment
4 tracking.

5 In terms of background, Robinson's initial
6 license was granted July 31st, 1970. Westinghouse 3
7 loop plant, 2339 megawatts. It's a sister plant to
8 Turkey Point. Currently, all of our NRC performance
9 indicators are green, and all NRC inspection findings
10 are green.

11 As shown on the first slide, if you go to
12 the Robinson site, there are two units. The first
13 unit is a Fossil Plant. The second unit is a Nuclear
14 Plant. There are some shared resources. Some of
15 those shared resources were in scope in terms of
16 license renewal. Those include the lake. We have a
17 common lake, we've got a dam, spillway and discharge
18 canal that are shared by the two units. We do have
19 separate intake structures for the two units.

20 For the emergency diesel generators on
21 Unit 2, we do accredit some additional storage
22 capacity from Unit 1, so we have one tank with some
23 transfer piping in scope, as well. The Fire Water
24 Systems are cross-connected. They are separated by a
25 closed isolation valve, so it's strictly a backup

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1 feature that one plant could back the other one up,
2 but they are crossed. There's a number of --

3 SPEAKER: [text missing due to failure of
4 NRC audiovisual system.] between the two valves that
5 there is [text missing due to failure of NRC
6 audiovisual system].

7 MR. STEWART: No, sir. These are
8 underground headers with valves. I believe it's all
9 underground.

10 SPEAKER: So the valves may be leaking.

11 MR. STEWART: Possible, but not likely.
12 We do have performance tests on both units, and we
13 test the loops as well as the pump capacities.

14 We have a number of other systems that are
15 shared between, there are resources shared between the
16 plants that aren't in the scope of license renewal.
17 These are things like the hydrogen supply, sewerage
18 treatment, the telephone and PA systems are common,
19 training buildings, warehouse, waste oil disposal
20 facility. We do have a railway we use to get
21 equipment into both units, and we also have the access
22 road. And that's pretty much what we've got common
23 between them.

24 The security is pretty much assigned to
25 Unit 2, but the perimeter of the plant also includes

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1 Unit 1.

2 MR. BARTON: Warehouse is common for both
3 Fossil and Nuclear --

4 MR. STEWART: Yes, sir.

5 MR. BARTON: Single and segregated fossil
6 or --

7 MR. STEWART: There is some segregation.
8 There are some different areas, and there's also --
9 there tends to be, depending on the area, they might
10 have some spares that they carry specifically to Unit
11 1, but we do use pretty much a common warehouse.

12 Now, you stock the stuff by the part
13 number, and you draw it out by a part number. That
14 does not mean that you get the same part for Unit 1 as
15 Unit 2.

16 SPEAKER: What's the status of the Unit?

17 MR. STEWART: It's older than Unit 1 -
18 excuse me - Unit 2. It went into service in the early
19 60s. I'm not sure of the exact date, but it went in,
20 in early 60s, and probably predates it a good 10
21 years.

22 CHAIRMAN LEITCH: There's no, well, I
23 assume you have no definite plans for retirement of
24 these fossil plants.

25 MR. STEWART: That could be, sir, but to

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1 my knowledge, we at Progress Energy have not retired
2 a fossil plant yet, so I mean, we've got some that are
3 considerably older, and we haven't retired those, but
4 that is a possibility. In terms of the --

5 CHAIRMAN LEITCH: Excuse me, but just - I
6 don't see any mention of the switch yard. One of the
7 things -- this may not be the right time in the
8 presentation, but one of the things we have clear in
9 our mind [text missing due to failure of NRC
10 audiovisual system.]

11 MR. STEWART: The two units do have
12 separate switch yards. There's a switch yard for Unit
13 1 and a switch yard for Unit 2.

14 CHAIRMAN LEITCH: But the switch yard and
15 the switch yard relay building are not in scope.

16 MR. STEWART: They are in scope for SBR.
17 We brought them in scope.

18 CHAIRMAN LEITCH: According to the
19 document that I read some of it's in, and some of it's
20 out. We'll talk about that when we get to the
21 restoration --

22 MR. STEWART: The initial application --
23 you're correct, sir. On the initial application, none
24 of it came in. But when we addressed SBR, we brought
25 parts of the Unit 2 switch yard in scope.

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1 Operating experience on Robinson, it's
2 operated with very good capacity factors. We've also
3 made good progress in shortening our outages, and in
4 addition, we've had minimal -- we've experienced
5 minimal amount of time off line for other than
6 refueling outages. In fact, between our spring of
7 2001 and fall 2002 refueling outage we operated
8 breaker-to-breaker with no time off-line, so the plant
9 has been operating really well.

10 The next thing that I want to talk about
11 is the reactor vessel head penetrations. I'm going to
12 start with the upper penetrations. When we did our
13 Spring 2001 refueling outage, as we shut down, we
14 found some evidence of CRDM CAD seal leakage on the
15 head, and we elected to remove all insulation and
16 perform a bare metal qualified visual inspection of
17 the whole head. No leakage was detected. Now this
18 was in Spring of 2001, and this was before the NRC had
19 issued the bulletin. So we did some further work to
20 try to get a better handle on what we had seen or what
21 we were likely to see, and we had some analysis done
22 that demonstrated that, had there been any CDR or any
23 through-wall defects, we would have been able to see
24 the leakage or the results of the leakage, so we did
25 a bare metal visual inspection, didn't see anything.

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1 The next time we looked was in the next
2 refueling outage, which was in Fall of 2002, and at
3 this particular point we went and we did another bare
4 head visual inspection. In addition, we did some NDE
5 of all the penetrations. And what we did is we did an
6 eddy current exam of the 69 J-groove welds and a
7 penetration OD surface. We did eddy current and UT
8 exam of the 17 open penetration tubes from the
9 penetration ID. We did an eddy current exam of the 45
10 penetrations tubes with thermal sleeves, and the 7
11 remaining tubes with part leak drive-shafts from the
12 penetration's ID surface, and we found no evidence of
13 service-related degradation in that inspection.

14 MR. BARTON: How many degradations have
15 you seen through the methodology?

16 MR. STEWART: Through this next cycle,
17 which will be April, 2004, 21.7.

18 MR. ROSEN: What is the temperature of
19 that vessel head.

20 MR. STEWART: 99.7. It's just under 600
21 degrees. Now we have ordered a replacement reactor
22 vessel head, and we're currently planning for that
23 replacement to take place in the Fall of 2005. And
24 using the EPRI methodology, we'll have 23.1
25 degradation years at that point. And I failed to

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1 mention, our head is a CE fabricated head, which seems
2 to show some less susceptibility than the B&W ones.
3 That's all I have on the upper head.

4 CHAIRMAN LEITCH: Now, is my understanding
5 correct that you are seeking relief from the NRC Order
6 so you will not have to do so many inspections?

7 MR. STEWART: That's correct, sir. Yes.
8 Based on the examinations that we've done, the
9 analysis that we've done, and the fact that we do plan
10 on replacing them in 2005.

11 If there had been a crack existing at that
12 time, which we did not see, it would not propagate
13 over the two centers of operation until we replace the
14 head, so it's a bare head visual examination.

15 SPEAKER: Okay. Thank you.

16 MR. STEWART: On the lower penetrations,
17 we're in the process of preparing a response to the
18 NRC bulletin now, but we are making plans for this
19 spring. We plan on doing a remote bare metal
20 inspection of the bottom head, and along with that,
21 we're also developing some contingency plans in terms
22 to try to identify potential sources, and what we
23 might do for NDE and repair. That's as far as we've
24 gotten with that, but we are working to put it in the
25 schedule and are developing a response to that.

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1 CHAIRMAN LEITCH: What time -- do you have
2 instrumentation time schedules on the lower head? Is
3 that coming--

4 MR. SIEBER: What schedules?

5 MR. STEWART: I don't know the number of
6 the --

7 MR. ROSEN: Do you have access? What kind
8 of access do you have?

9 MR. STEWART: If you could help on that
10 one, I'm not that familiar with --

11 MR. BAUCOM: It is somewhat restricted
12 because our understanding of it is that the lower
13 vessel insulation is one piece, and there's some
14 shrouds and support, so it would have to be engulfed,
15 and we'll have to lower that insulation as one unit
16 sufficiently to give camera access to see what's going
17 on with the penetrations for each instrumentation.

18 MR. SIEBER: It's like BWR, where you have
19 all that. There's a lot of stuff that you're just
20 forgetting about.

21 MR. ROSEN : It's not like the trend where
22 they had very good methodologies.

23 MR. STEWART: Now I'm going to talk a
24 little bit about the scoping and screen methodologies
25 and any exceptions to GALL.

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1 MR. SIEBER: Before we leave your
2 description of the plant, I'd like to ask a couple of
3 questions. You replaced steam generators in 1986.

4 MR. STEWART: '85.

5 MR. SIEBER: '85 or thereabouts.

6 MR. STEWART: Yes, sir.

7 MR. SIEBER: What model did you put in,
8 and what was different about the replacement steam
9 generators and the original ones?

10 MR. STEWART: The replacement generators
11 are -- it's 34F, and they have the feed room with the
12 J-tubes. And they have -- the main difference that
13 ours have is the thermally annealed inconel after you
14 vent it. And in addition, we've got stainless steel
15 quadrifoil baffles on the support, two sheet support
16 baffles. And I don't remember the exact numbers, but
17 I'm thinking the total number of tubes that we've
18 plugged is like two dozen, comes to mind so far.

19 MR. SIEBER: Okay. That answers all the
20 questions that we asked. I do have a question about
21 your containment. One of the open items or
22 confirmatory items was the debris screen on the purge
23 valves. Now, do you operate your plant with the purge
24 valves open during your operation?

25 MR. STEWART: No, sir. That's not --

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1 MR. SIEBER: It's not allowed, I suppose.

2 MR. STEWART: I believe it is allowed, but
3 it is not part of the standard operation to do so.

4 MR. SIEBER: So the debris screen actually
5 serves no purpose during the entire operation. Is
6 that correct? You probably have that isolated --

7 MR. STEWART: It's isolated and it's --

8 MR. SIEBER: Mode 3 and above. Right?
9 Mode 3 and above.

10 MR. STEWART: Yes, sir.

11 MR. SIEBER: All right.

12 DR. BONACA: It seems to me --

13 CHAIRMAN LEITCH: Excuse me. Go ahead.

14 DR. BONACA: It seems to me we're asking
15 questions about some various experience. Now in
16 reviewing your programs ASME Section 11, containment,
17 and Subsection IWL Program, there are a number of
18 observations made about the containment liner and
19 corrosion. I wonder if you could just summarize for
20 us the status of that. There are statements that say
21 there are problems. The affected areas have been
22 evaluated and meet minimum wall thickness. What does
23 it mean in terms of the progressive degradation of
24 that? Are you monitoring it --

25 MR. STEWART: What we found, sir, is on

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1 our containment liner, where we found corrosion is
2 right at the bottom of the liner. As you get down and
3 you go down the liner, right at the base plate. The
4 liner is there. You've got the form, the base mat on
5 the floor, and there is a moisture barrier there. And
6 we have gotten some moisture or something behind that.
7 So we had some degradation of the liner, right in that
8 lower couple of inches or so. And we have pulled off
9 all -- we have pulled off panels -- our containment
10 has -- we've got the steel liner. Then we've got an
11 insulation panel. Then you've got a stainless steel
12 sheeting, and it's typically 4 by 8 stainless steel
13 sheeting and insulation panel. We had removed all
14 those panels that were accessible and checked all of
15 the lower portion around there, and had found some
16 degradation, were able to evaluate it and determine
17 that we had ample thickness to continue operation.
18 And what we had planned to do, and what was previewed
19 as an existing commitment as some of the inaccessible
20 areas we're going in this refueling outage, and it's
21 typically a blocked wall. We're going to remove some
22 of the blocked walls, and we're going to get to those
23 last panels and go around and check those to make sure
24 that they're in good shape. That's what the
25 commitment relates to.

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1 DR. BONACA: Yeah. The other question I
2 had was how did the boric acid leakage get there? I
3 mean, on the statement it says you had -- I just was
4 trying to figure out --

5 MR. STEWART: We had a rapid coolant pump
6 seal failure in the early 70s.

7 DR. BONACA: Okay.

8 CHAIRMAN LEITCH: I had a question in that
9 same vein regarding these insulated panels. This is
10 on the inside of the -- this is up against the
11 containment liner?

12 MR. STEWART: Yes, sir. If you can
13 visualize, you have the concrete structures and you've
14 got the steel liner on the inside. Then we've got an
15 insulated panel and then we've got a stainless steel
16 sheeting on the outside of it, so if you were inside
17 the containment looking out, what you would see would
18 be the stainless steel insulating - excuse me - the
19 stainless steel sheets.

20 MR. ROSEN: Sheeting on the insulation.

21 MR. STEWART: Yes, sir, covering the
22 insulation.

23 CHAIRMAN LEITCH: That's an unusual
24 design, is it not?

25 MR. STEWART: I would suspect so. Our

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1 plant design basis is that insulation is there so that
2 in a design basis accident limits the amount, limits
3 the heat-up rate on the concrete.

4 CHAIRMAN LEITCH: Now have you -- I guess
5 you're aware of the recent concern about sump debris.

6 MR. STEWART: Yes, sir.

7 CHAIRMAN LEITCH: And I'm picturing in
8 your design with this insulation around the
9 containment whether you have a larger capacity to
10 generate debris than most? Am I not getting the
11 picture correct?

12 MR. STEWART: For the most part, if you
13 will envision the primary systems are pretty much
14 inside a primary emissions sheet, and so if you're
15 talking LOCA-type generated debris, there is not a --
16 the only thing you'd have to look at potentially are
17 some of the high energy lines that are coming into the
18 containment from safety injection, so there's not a
19 lot of target area that can get to it because you've
20 got a large missile shield around the whole primary
21 components that would prevent anything from
22 potentially impacting and knocking this insulation
23 off.

24 MR. BARTON: Is there a containment spray
25 system?

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1 MR. STEWART: Yes, sir.

2 MR. SIEBER: You've got containment feed
3 water on it too, which is pretty big, and they run on
4 the outside of the --

5 CHAIRMAN LEITCH: You do have steam lines.
6 Like I said, it's LOCA generally.

7 MR. SIEBER: Steam lines.

8 CHAIRMAN LEITCH: So are you - Again, I'm
9 a little confused on the status. Is there a new
10 bulletin regarding sump blockage in BWR.

11 MR. STEWART: Yes, sir.

12 CHAIRMAN LEITCH: Is that --

13 MR. STEWART: Yes, there is. Exactly.
14 And we have answered the bulletin. We answered it in
15 August. And when we answered the bulletin, we took
16 Option 2 in it. And with Option 2, what we're doing
17 right now is we are doing some enhancements to
18 operating procedures, and those will be implemented by
19 the middle of November. And additionally, we're also
20 enhancing what we do in terms of containment cleanup
21 and inspections, and we'll have that in place before
22 we go into the next refueling outage so we can train
23 all the crews going in. And in addition, we'll be
24 going back and doing some design basis review on the
25 sump and stuff. We're just beginning that. But we've

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1 answered the first phase of the bulletin.

2 CHAIRMAN LEITCH: So you're dealing with
3 it as an operating procedure, as housekeeping
4 improvements.

5 MR. STEWART: Yes.

6 CHAIRMAN LEITCH: And going back and
7 looking at the design, but that's pending.

8 MR. STEWART: Yes, sir. That's correct.

9 CHAIRMAN LEITCH: I would think that if
10 that insulation that we're referring to, although I
11 understand what you're saying, is that they not be
12 susceptible, I would think you would have to look
13 carefully at that to be sure that that didn't
14 significantly increase the problem you have as
15 compared with some other things.

16 MR. STEWART: Yes, sir.

17 DR. BONACA: I have a question still on
18 containment. Again, looking at one of your problems,
19 there is a description of an experience where in
20 containment you have some significant indication
21 spalling grout problems, degradation of exterior
22 surface of containment, some concrete, so some
23 experience with that. Do have aggressive ground water
24 at Robinson?

25 MR. STEWART: Our ground water pH is less

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1 than 5.5, so under that threshold we'd say that yes,
2 it's to be considered aggressive.

3 DR. BONACA: And you have chlorides and
4 sulfates too, so have you had indication on exposed
5 concrete under -- I guess what I'm leading to is,
6 because you have indication of concrete spallation and
7 problems even with integrity of containment, do you
8 have some indications like these also for intact
9 structure, for example, and other non-accessible
10 locations that would give even a higher concern?

11 MR. STEWART: We have -- about four years
12 or so ago, we replaced a portion of the service water
13 header and brought it from below ground to above
14 ground, and we excavated right up next to the
15 auxiliary building, and we did that, and went back to
16 that concrete and went down quite a bit, and saw no
17 evidence of degradation there. We also -- the lake
18 water and the ground water are fairly comparable. If
19 we look at a lot of the water intake structures and
20 discharge structures, we have not seen any particular
21 evidence of degradation on those. We do have some
22 programs in place.

23 We've looked somewhat at the Unit 1 side,
24 but not extensively, and we haven't seen a lot with
25 Unit 1, but the stuff that we've looked at, we haven't

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1 seen problems with it.

2 DR. BONACA: We will hear from the staff
3 anyway on the staff's evaluation, how you addressed --

4 MR. STEWART: Yes. For our scoping and
5 screening, all of the technical work that we did to
6 prepare the application was performed in accordance
7 with our Progress Energy Quality Assurance Program,
8 i.e., we did the work under Appendix B. We basically
9 followed the guidance of NEI 95-10 and prepared an
10 application in the SRP format. I believe Fort Calhoun
11 was the first one, we're the second one, so we were
12 following that format.

13 Initially, when we submitted the
14 application we had not addressed the Staff interim
15 guidance, so we did issue a supplement, and we issued
16 that prior to getting the RAIs to address some of the
17 interim staff guidance on such things as the A-2, the
18 SBO, fire protection, the external aging on concrete,
19 but we addressed those via supplement.

20 There's a couple of unique aspects to
21 Robinson, and this goes back to containment. We
22 don't know of another domestic plant - I'm not saying
23 there isn't one, but we're not aware of another one,
24 but we have grouted tendons, so that's one big
25 difference. And this will definitely be the -- this

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1 is the first one that the staff's has had a chance to
2 review that has grouted tendons.

3 Another one that we've got, and this is
4 not as unique. I don't know if you've had it on your
5 other applications, we have a dedicated shutdown
6 diesel that we rely on for both Appendix R, as well
7 as SBO.

8 MR. SIEBER: You have a separate Appendix
9 R aux feed pump, or feed pump?

10 MR. STEWART: We rely on -- we have two
11 motor-driven pumps and one steam-driven pump, and so
12 we tend to rely on the steam-driven pump in both
13 scenarios.

14 MR. SIEBER: Yeah, one of the problems is
15 that a plant of that age, and it depends on who the
16 AE was, but a plant of that age, all three pumps were
17 usually the same fire rating. If Westinghouse put
18 that together, they may have been --

19 MR. STEWART: The two motor-driven pumps
20 are basically in the same cubicle. The steam-driven
21 pump -- and that's in an area that's right off the
22 turbine building, and it's separated by --

23 MR. SIEBER: It's in the aux building.
24 Right?

25 MR. STEWART: It's in the aux building,

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1 but you get to it by going through the turbine
2 building. It's clean. But the steam-driven pump,
3 our turbine building is open. Now physically 75
4 feet, I'd guess.

5 MR. SIEBER: It's in the turbine
6 building?

7 MR. STEWART: Yes, sir. And it's open.
8 It's a different fire zone.

9 MR. SIEBER: All right. You probably
10 know it, but a lot of plants that had the extra
11 diesel would use it to power an Appendix R aux feed
12 pump have separate ones. A lot of those plants have
13 had four instead of three, so I thought that's what
14 you were doing.

15 MR. STEWART: Our diesel, we use it power
16 a component cooling water pump, a charging pump, and
17 a service water pump. The main thing that we're
18 trying to do is RCP seal cooling and seal injection
19 is what we're allowing for.

20 MR. SIEBER: So it's not a real big one,
21 right?

22 MR. STEWART: I'm not sure of the size.
23 Do you know?

24 MR. SIEBER: 2400?

25 MR. STEWART: It's a pretty good sized

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1 unit. I think it's close to the other ones. Our
2 emergency diesels are 480 as exempt system.

3 When we're looking at our aging
4 management programs, and these will be discussed
5 later by the Staff, but we took no major exceptions
6 to GALL. We did take some exceptions, but no major
7 ones. Yes, sir.

8 MR. ROSEN: Before you get off this line,
9 you have a bullet that says supplement to address
10 ISGs.

11 MR. STEWART: Yes, sir.

12 MR. ROSEN: Is that going to be discussed
13 later in detail, that supplement? Is anybody on your
14 program going to go through that?

15 MR. STEWART: As the Staff goes through
16 and does their safety evaluation, we basically -- I
17 think it's discussed in general how we discussed the
18 A-2 stuff, and the SBO stuff falls out of it. The
19 fire protection was pretty straightforward in
20 answering that, as well as the external concrete.

21 MR. ROSEN: Well, this ISD-2. You know
22 what that is, the one on station blackout.

23 MR. STEWART: Right.

24 MR. ROSEN: And that's what I'm trying to
25 get somebody to talk about.

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1 MR. STEWART: Some of the Staff will talk
2 about it.

3 DR. KUO: He will bring it up.

4 MR. STEWART: Right.

5 MR. ROSEN: All right.

6 MR. SIEBER: Well, that was actually
7 addressed in the SBR.

8 MR. STEWART: Yeah.

9 DR. BONACA: I have some other questions
10 too on the scope, if I could ask. First of all, I
11 don't understand why the axial power distribution
12 monitoring system is not in scope. I mean, could you
13 explain to me. Maybe I misunderstand what it is.
14 It's a nuclear-related system, I guess, to --

15 MR. BARTON: Axial power monitor.

16 MR. SIEBER: Yes, it's --

17 DR. BONACA: I guess it's not used for
18 any such detection?

19 MR. STEWART: It's not used for -- I
20 think it's the indication. We don't use it for any
21 protective features or anything.

22 DR. BONACA: I guess the freeze
23 protection system is also -- it doesn't give you --
24 I mean, it doesn't monitor freezing in any of the
25 tanks or anything like this.

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1 MR. STEWART: That's correct.

2 DR. BONACA: Okay. And I have one last
3 question about scope, which is to do with the thermal
4 shield. I'm confused about what took place there.
5 First of all, you took the position the thermal
6 shield is not in scope because it is not exposed to
7 high radiation, and I couldn't understand that.

8 MR. SIEBER: It's pretty close to the
9 reactor.

10 DR. BONACA: Yes. So then I notice that
11 the staff asked questions about that.

12 MR. STEWART: Right.

13 DR. BONACA: But it's evaluation was that
14 it doesn't need to be in scope because other
15 components are monitored that would give lead
16 information about the thermal shield.

17 MR. STEWART: Okay.

18 DR. BONACA: Okay. And I still don't
19 understand how -- what is the basis for not including
20 thermal shield, which is highly exposed component in
21 scope?

22 DR. KUO: If I may, I'll ask Jim Medoff
23 to address the issue.

24 DR. BONACA: Okay.

25 MR. MEDOFF: Do you want me to address it

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1 now?

2 DR. KUO: Yes, now. If you can answer
3 briefly.

4 MR. MEDOFF: This is Jim Medoff. There
5 was an aging management review for a number of the
6 internal components, void swelling and radiation
7 embrittlement, and it's one of the items that GALL or
8 the SRP recommends further evaluation, so they
9 addressed each one of the components to just fall
10 back by the standard review plan.

11 They concluded that the thermal shield
12 didn't have a hot enough fluid, so we asked a
13 question on it, and they pointed out that the thermal
14 shield is -- some of it's in the area of the
15 radiation zone, and so we thought that they should
16 provide aging management.

17 The way the -- we had discussions with
18 the applicant. The way they addressed it was they --
19 the applicant was one of a few applicants that have
20 a really strong commitment in its PWR internal
21 program. The commitment is to participate in
22 industry programs, to implement the recommended
23 activities from the EPRI/MRP work task and vessel
24 internals, and to submit the inspection plan to us
25 prior to the -- within a certain period of the

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1 extended period of operation for the review and
2 approval. And I think we have about two years to
3 look over the inspection plan.

4 Based on the strong commitment for the
5 PWR internals program by the applicant, we concluded
6 that they didn't have to really propose aging
7 management of the thermal shield right now. What we
8 would do is let the industry organizations look into
9 what type of aging defects are applicable to it, and
10 see if we need to add it on later on when they've
11 reviewed the inspection plan, so that's basically how
12 we handled that.

13 DR. BONACA: Still I'm left, you know,
14 with the feeling that, again, this component is not
15 in scope. That's the statement, it's not in scope
16 until -- they just didn't determine what to do with
17 it.

18 MR. MEDOFF: I don't think it's -- you
19 would have to ask that one of the scoping reviewer.
20 I'm not sure that it wasn't in scope. I do know that
21 they didn't have an aging management review for it,
22 so you would have to ask the scoping -- that of the
23 scoping reviewer.

24 DR. KUO: It's just that they're not
25 relying on it. Correct?

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1 MR. MEDOFF: It's not that they're not
2 relying on it. It's that they are not proposing
3 aging management of it right now.

4 MR. STEWART: We would have identified no
5 aging mechanisms that required aging management
6 programs at this point.

7 MR. MEDOFF: Right.

8 DR. KUO: Well, it isn't in scope. You
9 review it. There's no aging management program
10 required, so I guess --

11 MR. STEWART: I'm not sure. I'd have to
12 go back and look at it.

13 MR. MEDOFF: What the GALL does, it has
14 an AMR -- the GALL report has an AMR calling out
15 certain vessel components, including the thermal
16 shield. And they did call out the component. It
17 talked about the component in the aging management
18 review. It's just that we had some questions on it,
19 and we wanted to know how they were going to do aging
20 management, so what -- the way we handled it is
21 they're going to rely on their participation in the
22 industry organization. They discussed it in Chapter
23 3, it would have been the cause. We determined it
24 was in scope in Chapter 2 --

25 DR. BONACA: Well, let me explain the

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1 reason why I'm concerned about it, is that, you know,
2 thermal shield problems have been experienced by the
3 PWR in the past. Okay. Some of them resulted in
4 vaulting failures, cracks in the barrel and things
5 that have to be done. Some loosening is an example,
6 maybe things need to be done were never repaired.
7 And typically, you have pretty careful inspections in
8 the following years, and commitments because of the
9 repairs. Others do not experience failures. For
10 example, we are reviewing right now Fort Calhoun.
11 They have digressions, however, in the late 80s and
12 they have to replace a number of things that support
13 the thermal shield. Now, of course, the issue is the
14 vertical vibrations, and we, in general, fall back
15 into the same situation. Here now when the thermal
16 shielding comes in, and for which you don't have any
17 specific problem, because there is no aging --

18 MR. MEDOFF: But I don't think that's
19 correct. It's not that there's a program. It's that
20 when we did our aging management review, if you look
21 at the PWR internals program called out by a lot of
22 -- a vast majority of the aging management reviews
23 and the GALL report, what it does is it's a further
24 evaluation, as it tells you to propose a
25 plan-specific aging management program which is PWR

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1 internals. And then if you look at the discussion in
2 GALL, it talks about either proposed aging management
3 or discuss participation in --

4 DR. BONACA: But the previous
5 conversation that took place here where I heard that
6 there wasn't any specific aging management program
7 that was needed.

8 MR. STEWART: No, it's not that.

9 DR. BONACA: That's what I heard. Am I
10 wrong?

11 MR. STEWART: No, I think the way we
12 handled it is we handled the way the commitments for
13 the PWR internals to determine through the EPRI/MRPs
14 activities on internals to determine whether they
15 needed to add it to their inspection plan when they
16 submit the inspection plan for review and approval,
17 so that's how we handled aging management for the
18 thermal shield.

19 MR. SIEBER: It seemed to me that a lot
20 of the thermal shield and internal involvement were
21 in a plant of a different brand than this plant, like
22 Brand C versus Brand W.

23 DR. BONACA: Well, I don't know. I mean,
24 I just --

25 MR. SIEBER: So Brand W doesn't really

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1 have a lot of specific things going on. Brand W has,
2 for example, prepared --

3 DR. BONACA: But this is -- this is the
4 last question. Is the thermal shield going to be
5 inspected specifically, or are you looking to just
6 allow the components to determine the condition of
7 that.

8 MR. MEDOFF: The MRP -- the EPRI/MRP task
9 group on internals is going to be coming in to
10 discuss their programs for PWR internals in the next
11 month or so. The way we have been handling
12 participation in the industry program is we've been
13 really asking for applicants to commit to
14 implementing recommendations of the EPRI/MRP for
15 inspections of their internals. So if it's something
16 like void swelling, where you're not quite sure
17 exactly which components you're going to get void
18 swelling on, or in this case maybe cracking of the
19 thermal shield, or irradiation embrittlement of the
20 thermal shield.

21 What we're supposed to do in our
22 interactions, the Staff's interactions with the
23 EPRI/MRP is to raise those topics with the EPRI/MRP
24 to look into studies to investigate whether -- which
25 type of aging management activities need to be

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1 proposed for those components. And for all
2 applicants, we've been asking for commitments to
3 implement the industry's recommendations, and to
4 submit inspection plans. Robinson, we didn't even
5 have to ask them for it.

6 DR. BONACA: So, I mean, I guess the
7 answer I'm hearing is that the component is in scope.

8 MR. MEDOFF: Right.

9 DR. BONACA: And that activities may be
10 initiated consistent with the recommendations of the
11 EPRI --

12 MR. BARTON: And I think they say that in
13 Item 8 in Table 311, Mario.

14 DR. BONACA: The commitment - -

15 MR. BARTON: In the LER, Table 311, Item
16 8 in the discussion.

17 DR. BONACA: Well, it is based on 366 and
18 367 of the SER. You get mighty confused.

19 MR. BARTON: Okay.

20 DR. KUO: Let us get back to you after
21 the break.

22 MR. ROSEN: This gets into an issue now.
23 We're proposing to take a current licensing action,
24 that is, to extend the Robinson operating license
25 based upon a future industry -- based in part upon a

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1 future industry action, the MRP. And what -- so I
2 pose this question. What if the MRP proposals are
3 not acceptable to the staff, what happens then?

4 DR. KUO: The staff is working with the
5 industry group on the resolution for the issue. If
6 the Staff doesn't accept it, that -- the Staff will
7 be able to tell them that we are not accepting this.

8 MR. ROSEN: But you've already --
9 presumably by that time, we will have already moved
10 ahead with the license renewal for Robinson.

11 MR. STEWART: Our commitment for Robinson
12 indicates that it's industry recommendations, as
13 agreed to by the Staff, so if the Staff doesn't agree
14 with recommendations, I can't meet the commitment.

15 DR. KUO: We will have to agree with it.

16 MR. MEDOFF: Can I address that?

17 DR. KUO: Go ahead.

18 MR. MEDOFF: Their commitment to get
19 their programs into -- inspection programs for these
20 internal components are equally on another area,
21 nickel-based alloy components, which we discuss later
22 on, is that they will have at least two years to
23 review the inspection plans, to review the EPRI's
24 programs, and to have dialogues with the applicant to
25 discuss areas of contention where we may not agree

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1 with the MRP and where we think more aging management
2 is necessary, so they've given us at least a two year
3 period to review the inspection plans when they
4 submit them.

5 MR. STEWART: The other thing about the
6 Robinson plant, if you will think of us in
7 perspective to your other applicants, our in-service
8 -- our license was issued in 1970. Our period of
9 extended operation begins August 1st, 2010. All of
10 these programs that you're talking about, we may be
11 coming in later in the queue on license renewal, but
12 we're one of the first up in terms of when the period
13 of extended operation begins. We have a vested
14 interest in participating with the industry and
15 getting these programs agreed to and in place,
16 because we're going to be in early with them compared
17 to some of the other applicants you've already
18 approved.

19 MR. MEDOFF: Dr. Rosen, I just want to
20 tell you, because I know where you're coming from.
21 I've talked to my management and told them for these
22 types of programs where they're relying on industry
23 activities, that we really have to keep on top of the
24 MRP to make sure they're looking into the -- you
25 know, aging of the components, you know, so they can

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1 get the programs.

2 DR. KUO: The question is, what if the
3 staff does not agree with the proposal proposed by
4 the industry group?

5 MR. MEDOFF: The inspection plan is for
6 review and approval, so we will work that out with --

7 DR. KUO: The answer is the staff will
8 have to agree, and to endorse it.

9 MR. ROSEN: The inspection plan, so the
10 proposal based on MRP, you don't agree with it in our
11 hypothetical situation, so instead of that, you can
12 just say okay, we don't agree. You wait for Robinson
13 to come in with their inspection plan. The MRP-- You
14 say you don't agree with the inspection plan, and
15 you, at that point, can force changes on a
16 site-specific basis to Robinson II's inspection plan?

17 DR. KUO: Correct.

18 MR. STEWART: We negotiate one that's
19 agreeable to you.

20 MR. ROSEN: I don't want it to happen,
21 but I wanted to explore the boundary.

22 DR. KUO: Yeah, but that really is going
23 to happen if the staff doesn't agree with the
24 proposal, it won't go. The staff won't endorse it,
25 so they have to change the inspection plan.

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1 MR. MEDOFF: Dr. Rosen, we have the same
2 question. What if we don't agree? And they said
3 well, that's why we're giving you a two year period
4 for review of the inspection plan.

5 MR. SIEBER: Let me ask a question about
6 this slide before it disappears.

7 DR. KUO: Yes, sir.

8 MR. SIEBER: You say no major exceptions
9 to GALL. And I guess that statement is sort of in
10 the eye of the beholder, whether it's major or not.
11 I will say that they were easy to find because
12 they're in the table, and I like that, so my piece of
13 the review was easy. On the other hand, I wondered
14 about one thing. You take exception to the one-time
15 inspection for branch lines connecting to the RCS.
16 And I thought about that, and I thought well, Section
17 11 of the ASME Code says you've got to inspect a
18 certain portion of those, maybe after 4 years you
19 would get them all. And so the one-time inspection
20 may not be necessary.

21 On the other hand, since you're already
22 doing it, and since that is a vulnerable place; for
23 example, bent lines that act like pendulums with
24 fatigue and cracking, and leaks in the function of
25 those, safety injection lines is another one, are not

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1 here. Why would you take exception? What was the
2 thought process? And then when we get to the staff's
3 presentation, I will ask why did you approve it.
4 Maybe you can answer that for me.

5 MR. STEWART: I'm not sure if I
6 understood the question, but relative to any
7 exceptions, the way we identified exceptions is, if
8 we had an exception to a specific element in a GALL
9 aging management program, we pointed what that
10 element was, explicitly stating the exception, and
11 stated why we said it was all right, to make sure it
12 was identified for the staff. They had our logic on
13 it, and could question it.

14 Now in terms of the one-time inspection
15 --

16 MR. SIEBER: For branch lines.

17 MR. STEWART: My recollection of the GALL
18 program for the one-time inspection is it's -- this
19 is my recollection, it could be wrong. But I thought
20 it was intended to validate; typically you credit
21 chemistry, as well as ISI on maintaining your pipe in
22 such condition you don't have any cracks or
23 indications. Now what happens is on anything that's
24 four inches or less, typically only on a visual
25 examination, so the GALL program --

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1 MR. SIEBER: Right.

2 MR. STEWART: The GALL program was to
3 basically go back into the smaller diameter stuff
4 that you only do a visual examination, is to do some
5 sort of a validation, either by looking on the inside
6 of the pipe or some sort of a -- some more extensive
7 thing other than visual examination. You were coming
8 up with a sampling program to validate that your
9 chemistry was, in fact, effective, and weren't having
10 pipe cracking and defects. And I'm not aware that we
11 took any exceptions to that.

12 MR. SIEBER: Well, it's in here. The
13 exceptions to the one-time exam, the code requires a
14 BT. Now because the geometry is terrible, so you
15 can't use any kind of audiometrics, so BT is probably
16 all you could use. If you're relying on that and
17 saying I'll be through four intervals by the time
18 license renewal comes along, and in four intervals I
19 will have caught every one, every branch line, and I
20 guess I'm satisfied. But there's 150 branch lines.
21 There's a lot of them, so maybe --

22 MR. STEWART: We'll address that.

23 MR. SIEBER: Yeah. Maybe you folks can
24 think about it while we're going through this, and
25 decide. It's not a big issue with me. On the other

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1 hand, I have been personally involved with several
2 that leaked.

3 DR. KUO: That's the reason we take
4 exception to Section 11 Code, because like you said,
5 Section 11 Code for small bore piping less than four
6 inches, only do the service examination and all that.
7 It doesn't do any voluntary examination.

8 MR. SIEBER: That's correct.

9 DR. KUO: And in order for us to really
10 know, you know, whether the small bore piping is
11 really in good shape or not, the exceptions that we
12 took in GALL is that we would like to have a one-time
13 inspection for these small piping to verify whether
14 there's indeed no never- mind thing, or that there
15 are cracks or leaks. If they are, then take another
16 corrective action. That's the intent of that.

17 MR. SIEBER: Okay. Thank you.

18 DR. BONACA: And the final scope, I mean
19 -- another issue I'll raise when you come up, and
20 it's one dear to my heart, as you know, has to do
21 with the pressurized spray head. You raise the same
22 question. Now the story is different. The story is
23 that the applicants are varied in experience and
24 concluded that such a failure has not occurred
25 anywhere else. And that's the basis for excluding

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1 it. But it's not clear from your confirmatory item
2 that are waiting to have a confirmation of the
3 operating experience, or if you're waiting to have
4 the applicant agree that the pressurized spray head
5 should be in scope, so I'll need to have a
6 clarification on that. Can you give it to me?

7 DR. KUO: Later on.

8 DR. BONACA: All right.

9 MR. SIEBER: The safety function is rapid
10 depressurization.

11 MR. STEWART: Okay. Now I'm going to
12 discuss our commitments in tracking. In the SER in
13 Appendix A, as you go through, there's an indication
14 that some of the commitments were withdrawn because
15 there was no changes required. In discussions with
16 Staff, we've discussed this, and we've agreed that
17 for the final SER, what we're going to say is rather
18 than say commitment withdrawn, we're going to be
19 crediting an existing program and we require no
20 changes in it, so if you go through the SER in
21 Appendix A, and you see that, that's what those --
22 that will be changed to clarify it. All that really
23 indicates is we were able to credit those programs,
24 required no changes or enhancements.

25 Basically, that leaves us with 37

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1 commitments that do require some enhancements or
2 changes. Those basically constitute 27 enhancements,
3 and we also ended up implementing or identifying 10
4 new programs that we're going to have Robinson for
5 the period of extended operation. I'm not going to
6 go in and discuss those, because that will be covered
7 later by the Staff.

8 Relative to these commitments, all of
9 these commitments have been entered into the MRP
10 commitment tracking system. Mr. Julian will talk a
11 little bit about that. He got the opportunity to see
12 some of that. Looking at commitments, looking ahead,
13 what we're anticipating doing, we did the license
14 renewal effort on Robinson. I'm actually part -- I'm
15 on-site, but I'm part of an off-site organization, so
16 I don't actually belong to the Robinson plant.

17 We envision transitioning this project,
18 finishing the project, closing the project out in
19 terms of off-site organization, and we'll move on and
20 do something else. The plant staff will still have
21 commitments to carry out.

22 We've taken a look at the commitments
23 that we made, and we envision 18 of these commitments
24 are fairly easy to accomplish, even though they may
25 not be required prior to the period of extended

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1 operation. We're going to go ahead and implement
2 them in their procedures and get them done near term.
3 And by "near term", I mean prior to June 30, 2004,
4 before we go away.

5 CHAIRMAN LEITCH: And those 18 presumably
6 include the 10 existing programs?

7 MR. STEWART: Yes.

8 CHAIRMAN LEITCH: So there's really only
9 8 of the 37 that you're --

10 MR. STEWART: Actually, there's 19 of the
11 commitments that we will be -- that we anticipate
12 transitioning. And by "transitioning", what I mean
13 is right now all the commitments are assigned to the
14 license renewal organization. If you envision that
15 organization is going to go away some time next
16 summer, I need someone on the plant site that owns
17 that commitment. So we have a transition plan in
18 place that we'll work with someone in the plant staff
19 organization, make sure they understand the
20 commitment.

21 For example, the one that James was
22 talking about on reactor vessel's internals, we're
23 already going to have that accomplished next year,
24 but I've got to have a plant person that's going to
25 own that program. So we're going to work with the

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1 plant, make sure that they understand what's behind
2 the commitment. They'll own the commitment, and make
3 sure that we've got it implemented prior to the
4 period of extended operation.

5 CHAIRMAN LEITCH: I read in the NRC
6 inspection report that tracking of the action items
7 is not yet integrated into the plant systems; that
8 is, tracking of these action items, I assume is what
9 it's referring to.

10 MR. STEWART: Mr. Julian will probably --

11 MR. JULIAN: But it has been now.

12 CHAIRMAN LEITCH: It has been now.

13 MR. JULIAN: It has been now.

14 CHAIRMAN LEITCH: Okay.

15 MR. JULIAN: They've gone back and looked
16 at other work and verified that he has incorporated
17 all these as he's describing into the official plant
18 practices.

19 CHAIRMAN LEITCH: Okay. Now it also said
20 that would be done, and would be subject to a
21 subsequent NRC inspection. So what you're saying is
22 that inspection has now taken place?

23 MR. JULIAN: We have done that.

24 CHAIRMAN LEITCH: Okay.

25 MR. JULIAN: And this was the inspection

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1 report.

2 CHAIRMAN LEITCH: Okay. Good. And in a
3 similar vein, there was a comment that the boric acid
4 control program, the linkage to plant procedures was
5 weak. And I guess I'm surprised. I can assume
6 that's one of your existing programs.

7 MR. STEWART: It was one that required an
8 enhancement, and that is an enhancement that we are
9 making.

10 CHAIRMAN LEITCH: Okay. And similarly,
11 has that action been completed?

12 MR. STEWART: Not yet, sir.

13 MR. JULIAN: It's one that's scheduled
14 for towards the end of the year, the boric acid.

15 MR. STEWART: Is that for EPO SLER?

16 MR. DONAHUE: We've got a corporate level
17 procedure being developed on our site, but Robinson
18 in particular to review something that now is claimed
19 to be in place and used here at Robinson for fueling
20 outage coming up this spring.

21 MR. ROSEN: What is this reference to EPO
22 SLER you just made?

23 MR. BARTON: This is the Davis-Besse
24 SLER. It's got a whole bunch of action items.

25 MR. ROSEN: I know. What particular

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1 recommendation of the INPO SOER 0204 on Davis-Besse
2 were you referring to?

3 MR. STEWART: I'm not sure, sir. What we
4 did is we have four operating nuclear stations in
5 Progress Energy, and we did a round-robin assessment
6 of the boric acid programs at all the stations, and
7 what Mr. Donahue is referring to is each one of the
8 plants right now has a current plant program, and
9 we're trying to move ourselves to a corporate program
10 on boric acid. Rather than try to enhance each one
11 of the stations, we would rather have a stronger
12 corporate program, and that's what the move is
13 toward.

14 MR. DONAHUE: We're incorporating the
15 recent assessment of the raw corporate organization,
16 the Westinghouse plan and information from INPO on
17 working with boric acid.

18 CHAIRMAN LEITCH: And I guess this is
19 kind of the same question. I thought I heard there,
20 as well, that a subsequent NRC inspection was
21 required. Is that -- regarding this boric acid
22 linkage to plant procedures. Is that correct?

23 MR. JULIAN: We took a look at where they
24 are on the screen during its third inspection, and
25 they have an internal review of their nuclear

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1 assessment section that identified and paralleled the
2 same issue, and that's tracked to be resolved by the
3 end of the year. We were satisfied with that because
4 the tracking was --

5 CHAIRMAN LEITCH: So that -- I guess
6 that's a piece of information I'm missing, and maybe
7 I'm getting the cart before the horse. But
8 typically, there are two NRC inspections required of
9 license renewal activity, and sometimes three. And
10 at Robinson, you did the third?

11 MR. JULIAN: Right.

12 CHAIRMAN LEITCH: And that has just
13 recently been completed?

14 MR. JULIAN: That is correct.

15 CHAIRMAN LEITCH: And I don't think we've
16 seen the results of that, so that may be the linkage
17 we're missing. I've seen one and two, but I don't
18 think I've seen the results of three yet.

19 DR. KUO: That's being issued.

20 MR. JULIAN: Yes, it is.

21 CHAIRMAN LEITCH: Okay. So I can see it.
22 Okay. Thank you.

23 MR. STEWART: Continuing with commitments
24 and commitments tracking. Once we've implemented a
25 commitment, typically these commitments are in some

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1 sort of a procedure, work procedure or whatever we
2 agree at. We will have identified the specific -- we
3 will identify it as a commitment in the implementing
4 document, and that doesn't mean that you can't revise
5 the document. But if you do revise it, you have to
6 go through the 50.59 process, determine if there's
7 any unreviewed safety question, or if you need to go
8 back to NRC if you're doing anything that might
9 affect the commitment. So we identify, we basically
10 implement the changes, make the changes in the
11 document, flag them as a commitment to the NRC, and
12 rely on a 50.59 process to make sure that we don't do
13 something in the future that might negate the
14 commitment.

15 One other thing that we envision is after
16 we -- we're working on -- currently now we're taking
17 a look at our configuration control process so that
18 we can incorporate some guidance to ensure that the
19 requirements of 10 CFR 54.37 are met. These are
20 basically, if you identify new structures or make a
21 change or something, you basically go through the
22 same sort of process that you would initially when we
23 did the IPA on the plant. So we're looking at
24 putting some controls in our configuration control
25 process to make sure that we're looking at that.

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1 We'll support this by -- when we do this,
2 we'll do license renewal training to make sure people
3 are aware of the requirements. We'll also have the
4 equivalent of a license renewal design basis-type
5 document. And, of course, we'll have the -- we will
6 have issued -- it'll be Chapter 18 in our UFSAR,
7 which would be a UFSAR supplement for license renewal
8 that has all the program descriptions. And that's
9 currently Appendix A in our license renewal
10 application. That's all I have.

11 CHAIRMAN LEITCH: Okay. Any questions
12 for the applicant at this time? Okay. Thanks very
13 much. If you're going to be around, there may be
14 questions. You know, some of this is -- it's not a
15 bright line between the applicant and the NRC
16 discussion, so we often bounce back and forth. Thank
17 you. Okay, P.T.

18 DR. KUO: Okay. S.K., your show. We are
19 about 30 minutes behind, so we've got to make up the
20 --

21 MR. MITRA: I'll go as fast as I can.
22 Good afternoon. My name is S.K. Mitra. I am the
23 Safety Review Project Manager for Robinson Nuclear
24 Plant. Actually, the plant's name is H.B. Robinson
25 Steam Electric Plant, Unit 2, but we call it Robinson

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1 Nuclear Plant, and in safety evaluation report we
2 also called it Robinson Nuclear Plant, so it's much
3 easier to speak about.

4 And with me, I acknowledge Dr. Mario
5 Cora, who have helped me for the last few months to
6 get together the safety evaluation report, and Mario
7 will join us to do some presentation, part of the
8 presentation with me. And also later on, Caudle
9 Julian from Region 2, he's the Team Lead for all the
10 inspections, so he will highlight the inspection
11 presentation for us.

12 The application was submitted on June
13 14th, 2002. It's a Westinghouse pressurized water
14 reactor, 3 loop low cycle, generated 2339 megawatt
15 thermal, and 769 megawatt electrical. We'll just go
16 one unit at a time. And the plant is located on the
17 shore of a manmade lake, Lake Robinson in Darlington
18 County, South Carolina. And the current license will
19 expire on July 31st, 2010, and the request for
20 renewal to July 31st, 2030. And this is the second
21 application we have reviewed using the GALL process.

22 We have two open items, and we have 29
23 confirmatory items. Let me explain what open items
24 and confirmatory items mean. Open items means that
25 the issues that was not resolved when we issue our

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1 SER with open item, which is on August 25th, that's
2 the open items. Two of them were still open at that
3 time. The confirmatory items were the issues, we
4 have resolved it, but we still waiting for the formal
5 reply under oath and affirmation from the applicant.
6 And we have received it, but we didn't go through the
7 review as yet, and when Staff have a chance to review
8 it, and they will include in their final SER those
9 confirmatory items.

10 CHAIRMAN LEITCH: How are the two items
11 resolved; that is, the steam generator feed drains
12 and the feed well pumps?

13 MR. MITRA: We will address it.

14 CHAIRMAN LEITCH: These are the audits
15 and inspections we have done, three inspections and
16 two audits. The first one was the scoping and
17 screening methodology audit. The second one is the
18 scoping and screening inspection. We did aging
19 management program audit, and we did aging
20 management review inspection. And the last one, as
21 Mr. Leitch was asking, is the final inspection,
22 which we do in September 9 and 10 and the report
23 was just being --

24 DR. BONACA: It was issued a new
25 license.

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1 MR. MITRA: Yes, sir.

2 DR. BONACA: I mean, you described that
3 you're going to have more time spent on-site.

4 DR. KUO: Right. And if I may, I'd
5 like to point as the aging management program
6 audit, this is the first one in a series of three,
7 Robinson, Ginna and Summer that we will send a team
8 of about 7 to 8 engineers and go into the site to
9 verify the consistency with GALL parts. So, the
10 rule we had was that when the applicant in their
11 application indicated that their aging management
12 program is consistent with GALL, the Staff only
13 verifies a few boundary perimeters, but will not do
14 the repeated review as we did in GALL, so the
15 reviews stop there. But we would like to verify
16 their consistency on-site, whether they have made
17 the right judgment in terms of making a call that
18 their program is consistent with GALL or not.

19 So that's what we started with
20 Robinson, and we did two others. And after that,
21 we will talk to the Committee again, when we have
22 this new process. This is the period of a new
23 process.

24 MR. MITRA: And we will be addressing
25 each of the audits and the inspection later on as

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1 we progress.

2 DR. BONACA: Could I ask how many RAIs
3 you have for this plant?

4 MR. MITRA: Okay. We have over 310
5 RAIs.

6 DR. BONACA: See, what surprises me is
7 that you used to have 170, 180. Then we get the
8 first GALL, and that's 240. I keep this tally.
9 Now we have the second GALL and we have 350. I
10 mean, these numbers warrant explanation.

11 MR. MITRA: Yeah, I -- my feeling is
12 that the RAIs that we have in Robinson review is in
13 the same ball park with the Fort Calhoun. The only
14 difference is how the RAIs are structured. You
15 know, you just see the numbers and not always give
16 you the exact issues of the RAIs. And secondly,
17 since Fort Calhoun was the first GALL plant that
18 Staff reviewed, we went back and did a second
19 evaluation of the RAI process. We call it
20 potential open items, and it has 13 items, but we
21 have 59 issues in there. So if you add up, it
22 comes about the same.

23 DR. BONACA: I guess where I'm going is
24 that you're increasing the number of weeks you're
25 spending on-site, which I believe is the right

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1 thing to do. I would expect to see a reduction in
2 RAIs as you go forth because, I mean, you're
3 solving issues as you go, and you have to write
4 them down.

5 MR. MITRA: As we are --

6 DR. KUO: For this plant, actually, the
7 RAIs were generated as using the traditional
8 process, so the auditor went to the site only to
9 verify the claim that these programs are consistent
10 with GALL. And actually, they did some
11 verification on the RAI process.

12 CHAIRMAN LEITCH: Wasn't another
13 factor, though, that the ISGs were just being
14 promulgated at this time.

15 MR. MITRA: Yes.

16 CHAIRMAN LEITCH: And the RAIs were a
17 supplement to respond to the ISGs. I mean, had
18 that all been done up front, it might have reduced
19 the number of RAIs.

20 MR. MITRA: Exactly, because the RAIs
21 were submitted after the application was here, and
22 most of the RAIs on those ISGs were already being
23 issued.

24 MR. ROSEN: So what is the first plant
25 where we could expect to see a reduction in the

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1 RAIs?

2 DR. KUO: I would say starting from
3 Farley you will see a significant reduction.
4 Farley is here already.

5 DR. BONACA: Yes.

6 DR. KUO: But starting Farley, we used
7 the new process. We sent auditor teams on site
8 review.

9 CHAIRMAN LEITCH: Before that there is
10 Ginna and Summer --

11 DR. KUO: Dresden and Quad Cities.

12 CHAIRMAN LEITCH: Dresden and Quad
13 Cities. How about Brown's Ferry?

14 DR. KUO: Brown's Ferry would be in
15 September, I mean in December, I'm sorry.

16 CHAIRMAN LEITCH: Okay.

17 DR. BONACA: So, hopefully, we are not
18 seeing growth any more of the --

19 DR. KUO: I hope too.

20 DR. BONACA: Because, I mean, this is a
21 question we have from the Commission. We are
22 meeting with the Commissioners on Thursday, and
23 when we talk about license renewal, the question
24 always comes, you know, are we getting better, are
25 we getting more efficient? And, you know, my

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1 desire is to say yes, sir, but as long as we see
2 the number of RAIs growing --

3 MR. SIEBER: Just say it, we're getting
4 better and better.

5 DR. KUO: If you see the same number of
6 RAIs for Farley, it means that we failed in the
7 process.

8 MR. BURTON: Dr. Bonaca, this is Bill
9 Burton with the Staff. I think you'll see in the
10 presentation for Fort Calhoun tomorrow, we're going
11 to be talking about some lessons learned, and a lot
12 of which you're seeing with Robinson is some of the
13 implementation from some of the lessons learned
14 from Fort Calhoun. And some of those things had an
15 impact on the number of RAIs and things like that,
16 so we'll talk about that a little bit tomorrow.

17 DR. BONACA: Thank you.

18 MR. MITRA: Any other questions? If
19 not, I will have Dr. Mario Cora to present the
20 scoping and screening portion of the presentation.
21 Mario.

22 DR. CORA: Okay. Good afternoon,
23 members of the ACRS Subcommittee for H.B. Robinson,
24 our co-workers and members of the public. My name
25 is Mario Cora. Today I will be presenting Section

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1 2, which we heard in some SER that we put together.
2 I have been assisting Mr. S.K. Mitra, who is the
3 Lead Project Manager in this project, the safety
4 part.

5 Section 2 is entitled "Structures,
6 Components Subject To An Aging Management Review",
7 and this section in the SER is divided in five
8 sub-sections. I will be going through the
9 sub-sections subsequently.

10 The first section is Section 2.1, which
11 deals with the scoping and screening methodology
12 that the applicant used in describing the license
13 renewal application. And our evaluation in the
14 SER, we present our evaluation of the applicant's
15 scoping and screening methodology. As part of the
16 -- in Section 2.1 of the SER, we describe our Staff
17 methodology audit. Staff evaluated the applicant's
18 methodology to being in scoping and screening in
19 the license renewal application.

20 CHAIRMAN LEITCH: Say, Mario, in the
21 interest of time, unless some of the Committee has
22 specific questions, I would suggest may be jump to
23 2.3.

24 DR. CORA: You want to jump?

25 CHAIRMAN LEITCH: Yes, to 2.3.

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1 DR. CORA: 2.3.

2 CHAIRMAN LEITCH: That's good, yeah.

3 DR. CORA: So 2.3 describes the
4 mechanical systems, and in the license renewal
5 application, this section is divided in reactor
6 systems, engineered safety features, and auxiliary
7 systems. These numbers we see in parentheses are
8 the systems dealing with each of the major
9 sections.

10 These were the system structural
11 components that were initially omitted that meet
12 the scoping criteria. These were the steam
13 generator feedrings, the work pumps and associated
14 piping, the hydrogen recombiners, spent fuel to
15 make a path from the feeding water storage tank to
16 the flow path. The systems were brought into scope
17 after the Staff evaluated the aging management
18 review.

19 CHAIRMAN LEITCH: Now the hydrogen
20 recombiners, aren't they no longer required as per
21 the changes to 50.44, or is that not yet the case,
22 but at the time --

23 MR. STEWART: The rule change has been
24 issued. We have not taken advantage of the rule
25 change and take them out of our current licensing

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1 basis.

2 MR. ROSEN: So the rule requires a
3 site-specific amendment?

4 CHAIRMAN LEITCH: Yeah. I'm just -- I
5 mean, I don't have a safety concern, obviously.
6 It's just that efficiency, I was just surprised
7 that they were still in there.

8 MR. ROSEN: Well, if they weren't, we
9 would have complained.

10 CHAIRMAN LEITCH: We would have
11 complained --

12 MR. STEWART: The rule change was just
13 issued.

14 MR. ROSEN: Because they have to be
15 removed by a site-specific --

16 DR. CORA: This is still their current
17 licensing basis.

18 MR. ROSEN: So you can't win this one.

19 CHAIRMAN LEITCH: Let's move on. I'm
20 sorry.

21 DR. CORA: So you want to continue on
22 Section 2.3?

23 CHAIRMAN LEITCH: Right.

24 DR. CORA: Jumping to Section 2.3, we
25 have two open items in the SER, and the two open

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1 items are in Section 2. The open items are 2.3,
2 1.6-1 deals with feedrings, deals with the
3 feedrings into scope, license renewal. The Staff
4 understands that safety-related component,
5 feedrings, is inside the safety-related component,
6 and the Staff understand that should be brought
7 into scope. In this part, within the feedring and
8 j-nozzles could damage the safety-related
9 components, especially when you get a transient.
10 After the evaluation, the applicant submitted a
11 response and this is in scope of license renewal.
12 Up to this point, the open item is resolved.

13 The next open item we have is 2.3 3.8-
14 1, where we have deep well pumps, and basically the
15 issue here is following a Lake Robinson dam
16 failure, the condition, the condensation storage
17 tank, the deep well pumps will be the final supply
18 of water for us evaluating feedwater. The Staff
19 requested an RAI why there was an exclusion of the
20 deep well pumps, and that issue was resolved.

21 CHAIRMAN LEITCH: So these deep well
22 pumps in a last ditch effort then supply what, is
23 it ground water?

24 DR. CORA: Yeah, that's my
25 understanding.

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1 CHAIRMAN LEITCH: Ground water to the
2 aux feed system.

3 MR. STEWART: That's correct. That's
4 after we run out of lake water.

5 CHAIRMAN LEITCH: Okay. So the deep
6 well pumps feed the auxiliary feedwater storage
7 tank?

8 MR. STEWART: They can feed the storage
9 tank within --

10 MR. SIEBER: Pumps right in.

11 DR. CORA: So now I will present two
12 confirmatory items in Section 2. One of them is
13 the hydrogen recombiner, and basically, the Staff
14 understand that the hydrogen recombiner should be
15 brought into scope. And after the RAI was issued,
16 the applicant responded, and this hydrogen
17 recombiner were brought into scope of license
18 renewal.

19 The next confirmatory item deal with
20 the spent fuel pool makeup path. Okay? This was a
21 confirmatory item that was an issue in the SER, and
22 deals with the path between the refueling water
23 storage tank and the spent fuel pool. And the
24 Staff believe that that piping connection should be
25 brought into scope, and on an RAI, the applicant

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1 responded and this was brought into scope of
2 license renewal.

3 Section 2.4 in the SER deals with the structural
4 components subject to an aging management review.
5 The way that the license renewal application is
6 organized, it's organized in committing from the
7 containment as a balanced structure, and then it
8 lists 13 other structures. Up to this point, when
9 we issued the SER, there is no open items or
10 confirmatory items in this section.

11 Section 2.5 deals with the electrical
12 systems and instrumentation, the control system.
13 The Staff requested why these main components were
14 not in scope, and up to this point, they show
15 background components were brought into scope, and
16 all associated components dealing with this were
17 brought into scope.

18 MR. ROSEN: Now before you get off this
19 slide, this is where my question was, about
20 Building 175, which is the switch yard relay
21 building, and the switch yard and transformer
22 itself. Are they now all in scope?

23 MR. MITRA: Yes, all in scope.

24 MR. STEWART: Portions of it.

25 MR. ROSEN: Yeah, because the May

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1 inspection report has a table at the back that says
2 they are not.

3 MR. JULIAN: That came from the
4 original application, that information, pointing
5 out originally the application came in and they did
6 not address station blackout and so it's been a
7 retrofit going through the process.

8 MR. ROSEN: So your inspection was
9 against the original application.

10 MR. JULIAN: We pulled that out of the
11 application.

12 DR. KUO: They brought in, for the SPO
13 they brought in four additional structures.

14 MR. ROSEN: Four additional structures,
15 not just two. Now, you list the switch yard and
16 transformers, we're talking about the unit
17 auxiliary transformer and the main transformers?
18 What are the transformers that we're talking about
19 that are now in scope?

20 MR. STEWART: The startup transformer.

21 MR. ROSEN: Just startup. Is there a
22 startup transformer?

23 MR. STEWART: Yeah.

24 MR. ROSEN: So those three, at least
25 those three transformers?

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1 MR. STEWART: Yes.

2 MR. ROSEN: Even the auxiliary startup
3 and main?

4 MR. BARTON: I'm not sure. I'm
5 confused. On page 245-2 of the LAR, item 1,
6 electrical bus has been eliminated from the aging
7 management. And that item describes the isolated
8 phasal, switch yard and transformer and associated
9 switch yard bus. Now I'm assuming that to be the
10 main transformer in that piece of equipment.

11 DR. KUO: I have the technical --

12 MR. BARTON: So I'm confused between
13 that and what you're saying now is switch yard,
14 switch yard house, and all the stuff required for
15 SBO is now in scope. Is that different than what
16 you described in Section 2.5-2 of the LAR?

17 DR. KUO: I have the reviewer here.

18 MR. BARTON: I think that would clarify
19 the --

20 MR. ROSEN: Maybe if you step up to the
21 diagram and show us what's in scope and what's not.

22 CHAIRMAN LEITCH: You need to identify
23 yourself.

24 MR. SIEBER: Here, I'll give him the
25 laser. He can use that if he wants.

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1 DR. KUO: Identify your name, please.

2 MR. PAL: This is Amar Pal, Electrical
3 Engineering Branch. The first breaker that sits
4 here on the offsite source, number one offsite
5 source.

6 CHAIRMAN LEITCH: Is that in the switch
7 yard there?

8 MR. PAL: This is the switch yard.

9 CHAIRMAN LEITCH: Yes.

10 MR. PAL: This is the switch yard bus.
11 This is the breaker. This is this portion of the
12 bus from the switch to this portion of the bus, and
13 this connects to it and then another breaker. This
14 is the transmission conductor for the primary
15 status transponder, and then from the startup
16 transformer, by means of a non-segregated phase
17 bus, goes to the non-transforming switch gear. And
18 then from the non-transforming switch gear via
19 step-down transformer to breaker bus goes to the
20 emergency bus. See, this is the transformer and
21 you have to -- so this -- and the other one is from
22 this transformer here to the D-train and the
23 A-train, this being the first --

24 MR. ROSEN: All of that in red is in
25 scope now.

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1 MR. PAL: Yes. And then the second
2 off-site source is through the main transformer.
3 This is the breaker, this is the bus, same thing,
4 to breaker, and the transmission from that to the
5 main transformer. To get this supply, they have to
6 disconnect the generator from the transformer.
7 Without that, they can't get this off-site source
8 so they disconnect the transformer and so on.

9 MR. ROSEN: So everything in blue there
10 is now in scope.

11 MR. PAL: Now in the scope.

12 MR. ROSEN: And that source in the
13 upper right-hand corner is the Unit 2 switch yard.

14 MR. PAL: This is the switch yard, yes.

15 MR. ROSEN: For the Robinson Nuclear
16 Plant.

17 MR. PAL: That's right.

18 MR. ROSEN: Now on the other side, is
19 the switch yard for the non-nuclear plant.

20 MR. PAL: No, this is their off-site
21 source.

22 MR. ROSEN: It's their off-site source?

23 MR. PAL: Yes.

24 MR. ROSEN: I want to talk about the
25 left side. Stay there. Where physically are those

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1 breakers located?

2 MR. PAL: These breakers in the switch
3 yard.

4 MR. ROSEN: Which switch yard?

5 MR. PAL: The 230 KV switch yard.

6 MR. ROSEN: What? I'm sorry. I can't
7 hear you.

8 MR. PAL: 230 KV switch yard. They
9 have two switch yards.

10 MR. ROSEN: I know. So that's the 230
11 KV switch yard, which is associated with which
12 unit?

13 MR. PAL: The same nuclear unit, Unit
14 2.

15 MR. HEATH: Amar, that's the 115 KV
16 switch yard associated with Unit 1. And the other
17 side Unit 2 is 230 KB switch yard.

18 MR. ROSEN: Okay. So your normal piece
19 on the Unit 1 slide, and that has now got two
20 breakers and some associated bus that are in scope
21 for license renewal for the nuclear plant.

22 MR. HEATH: Right. That's where --
23 that's the issue I would put on the table.

24 MR. ROSEN: To me, that creates some
25 issues that were not typical, in that now you've

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1 got components of the nuclear plant's licensing
2 basis, it's a renewable licensing basis, that are
3 actually in the fossil switch yard, I mean, a
4 non-nuclear switch yard. Is that correct?

5 MR. HEATH: It would be difficult --
6 the switch yard is all together.

7 MR. ROSEN: I thought you said there
8 were two separate switch yards.

9 MR. HEATH: No, they're all together.
10 There's one switch yard. The Unit 1 side feeds
11 into the 115 KB. The Unit 2 side feeds into the
12 230 KB. It's all one switch yard. Typically
13 though, that's the separation, just which plant is
14 normally connected to which switch yard, which set
15 of the 115 KB or 230 KB. In other words, Unit 1
16 could shut down and it would make no difference to
17 Unit 2, as far as that switch yard is concerned.

18 CHAIRMAN LEITCH: Now where is the
19 second off-site source?

20 MR. PAL: Through the main transformer.

21 CHAIRMAN LEITCH: But is that a
22 disconnect switch between the generator and that.
23 There's copper links that must be removed?

24 MR. PAL: Yes. There could be some
25 disconnecter unit.

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1 MR. ROSEN: But now we'll have aging
2 management inspections on this portion of the
3 switch yard on the left hand side.

4 CHAIRMAN LEITCH: Up to and including
5 those two main circuit breakers.

6 MR. PAL: That's right.

7 MR. DONAHUE: Mike, these breakers here
8 in the red, they're under existing scope. The red
9 and blue are under existing --

10 MR. HEATH: I can't say. They are what
11 these --

12 MR. ROSEN: And who takes care of those
13 breakers in the switch yard? Is that the Progress
14 Energy's transmission group?

15 MR. HEATH: Yes.

16 MR. ROSEN: Both the red and blue
17 breakers.

18 MR. HEATH: Red and blue. We have an
19 interface agreement with the transmission
20 organization. Those are the same tech spec
21 reference, for those playing the tech spec side.
22 It's all associated. It's all maintained by the
23 same group.

24 MR. ROSEN: And the switch yard relay
25 building has batteries typically, which would be

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1 now in scope? Am I correct?

2 MR. SIEBER: There are auxiliaries to
3 the breaker.

4 MR. ROSEN: No, I'm asking them. Are
5 those in scope? The switch yard relay building is
6 now in scope, I've been told, 175. Batteries
7 react, equipment interior to the relay building.

8 MR. REYNOLDS: The batteries are active
9 components.

10 MR. ROSEN: Active components. So
11 anything in that building, except the batteries,
12 which are handled under Maintenance Rule is in
13 scope because of license renewal now.

14 CHAIRMAN LEITCH: In scope that may be
15 screened out because they're active.

16 MR. ROSEN: Well, no, just the
17 batteries were active.

18 CHAIRMAN LEITCH: Other active
19 components.

20 MR. PAL: Relays on there two.

21 MR. ROSEN: Relays might be screened
22 out, yeah. But duct work and other things might
23 not be.

24 MR. PAL: Electrical work and the cable
25 capacity component is under.

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1 MR. ROSEN: Well, that's right. So
2 there will be activities, license renewal
3 activities beginning sometime before the end of
4 this term, the license term, in the relay building
5 because of the license renewal of Unit 2, which
6 will be inspected. This is always a tricky
7 business, this interface with the external source.
8 From an inspection point of view, and from a
9 licensee management point of view, because you're
10 interfacing with another organization, and the
11 transmission review. Okay.

12 DR. KUO: Sometimes these components
13 are actually are not owned by the licensee.

14 MR. ROSEN: They're not owned by them,
15 but in this case they are.

16 DR. KUO: Right. The same license.

17 CHAIRMAN LEITCH: Could we get a copy
18 of that little one-line diagram you just had up
19 there too? That would be helpful if we could get a
20 copy of that. Thank you. Go ahead, Mario. Thank
21 you.

22 DR. CORA: So we -- the Staff
23 determined that the applicant's screening satisfies
24 the rule, and all system structural components
25 within scope, are subject to an AMR.

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1 Now I would turn over to Mr. Caudle
2 Julian, who is a Team Leader for Region II. He
3 will be briefing you on the audits and inspection.

4 MR. JULIAN: How do I go forward?
5 We'll talk about, today, the license renewal
6 inspections that were done at Robinson, and this
7 just shows you the outline of what our program is.
8 We've talked about it before. This is a slide that
9 I've shown you before, I believe, that we have an
10 organized program for license renewal inspection,
11 our manual Chapter 25.16, and an inspection
12 procedure, 71.002. And I've told you before, I
13 think, that within Region II, we have a consistent
14 team of inspectors that's gone from site to site,
15 and we continue to maintain that so far, luckily.

16 Scoping and screening inspection, the
17 objective of that is to confirm that the applicant
18 has included all appropriate system structures and
19 components in the scope of license renewal, as
20 required by the rule. One week in length, starting
21 March 31st at the Robinson site, and we had
22 successful conclusion. The scoping and screening
23 process was successful, we thought.

24 The things we ran across there that we
25 dealt with, our inspectors independently came along

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1 and questioned why Unit 1 and 2 fuel oil transfer
2 piping deep well backup water supplies for
3 auxiliary feedwater were not in scope, and we --
4 our inspectors came across that independent of NRR,
5 and so we both worked together on that issue.

6 MR. ROSEN: What about the power supply
7 for the B-12 pumps?

8 MR. JULIAN: I don't know where those
9 are powered from. Do you know, Mike, the deep well
10 pumps? He's asking if the deep well pumps have any
11 emergency power supply, I presume, is your
12 question.

13 MR. HEATH: They're not.

14 MR. JULIAN: Right.

15 MR. ROSEN: Are they in scope? Is the
16 power supply for those pumps in scope?

17 MR. HEATH: We did elective scoping on
18 the plant spaces and power supply.

19 MR. JULIAN: The answer is yes, as far
20 as the cables and the power supply. I don't think
21 it's off emergency power, because you wouldn't
22 typically postulate --

23 MR. ROSEN: Oh, no. That's not -- I
24 wasn't asking about emergency power. I'm just
25 asking whether the power supply itself is

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1 considered in scope for license renewal or not. I
2 mean, how far back do you go? You're into your
3 third backup here, and now I'm asking questions
4 about the aging management of the third backup's
5 power supply. I'm not getting a clear answer to
6 that.

7 MR. JULIAN: The clear answer to that
8 would be -- the easy pat answer is that all cables,
9 they decided, are in scope; therefore, the cables
10 themselves are in scope, but I don't believe those
11 pumps are powered off emergency power. I would not
12 expect that. They're a balance of plant type
13 thing.

14 Let's see, how did I get ahead? How do
15 I back up?

16 There are three examples of the
17 inconsistency between the application and the
18 boundary drawings and the calculations. We run
19 across these paperwork discrepancies, and they
20 repaired them. We ran across the calculation that
21 they had and it's very confusing, describing how
22 they're handling a non-safety related piping in the
23 vicinity of safety-related. It was a very
24 confusing procedure, and we struggled with that
25 during inspection. Since then, they've gone back

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1 and completely rewritten that procedure to make it
2 clear how that work was done, and we're happy with
3 it. Subsequently, as I said in an inspection we
4 looked at, we think that these issues have been
5 fixed.

6 The second inspection was the aging
7 management program's inspection. The objective
8 confirmed that existing AMPs are working well, and
9 examined the applicant's plan for establishing new
10 AMPs and enhancing existing ones. Two weeks in
11 length, conducted in June.

12 What we concluded from that was that we
13 thought that there was incomplete integration of a
14 future task into the established site action
15 request tracking system. That's the issue that
16 Roger discussed a bit ago. Since then, we've gone
17 back and confirmed that's been fixed. They had a
18 tracking system, but it was a working tool. It was
19 not utilizing the official plant future task action
20 tracking, so they needed to integrate those.

21 We concluded our walk down inspection during
22 this period of time, and we concluded that the
23 material condition of the plant was being
24 adequately maintained, and observed that it has
25 improved over time. We think Robinson looks better

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1 today than it used to in the olden days when we
2 used to go there. The documentation was of good
3 quality.

4 In this case, we wanted to make sure
5 that we got the tracking system squared away, so we
6 have completed already a third optional inspection,
7 and we're satisfied that Roger has loaded
8 everything into the official plant tracking system.
9 And he has a good transition plan for completion of
10 the license renewal project, and turning over of
11 items that he himself will not get to complete. Now
12 to say a word about the current status of the ROP,
13 Reactor Oversight Program, and Robinson has a very
14 good track record, as you can see. This is off our
15 web site. All the performance indicators are
16 green, and there have been no significant findings
17 in the last two years, a couple of them, but
18 they've been rated as green, very low safety
19 signals. That concludes what I have to say. Do
20 you have questions?

21 CHAIRMAN LEITCH: I have a couple of
22 questions. I guess one related to this containment
23 debris sump clogging issue, and you say something
24 about a zone of influence. This is on the second
25 inspection, page 14, zone of influence at 5,000

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1 square feet.

2 MR. JULIAN: Right. That's our
3 structural inspector, who's -- each time he goes
4 there, he always challenges the applicant to see if
5 they have the calculation that deals with plugging
6 of sump screens, and how much is likely -- how much
7 plugging is likely to occur. That's what he's
8 talking about there.

9 CHAIRMAN LEITCH: My question was
10 really -- maybe I have the wrong picture of this
11 thing. I was picturing a zone of influence in
12 terms -- I would expect the units to be in cubic
13 feet. Not so? Instead of square feet.

14 MR. JULIAN: Gosh, I don't know. I
15 really don't know the answer to that.

16 MR. SIEBER: The surface of --

17 MR. STEWART: Our reaction is we have a
18 zone of influence defined. You go in, and there's
19 an and there's an overlay of some drawings that
20 says, here's the area you're worrying about, and
21 typically what we do is we have stricter controls
22 on the coding and stuff in those zones of
23 influence. And since they're overlaid, there's an
24 overlay on the plant general arrangement drawing, I
25 would expect it would be in terms of square feet,

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1 not surface area.

2 MR. JULIAN: I pictured it myself.
3 That's why I thought you were saying those areas
4 that could be impacted by high energy line break or
5 something like that. You mentioned about the
6 insulation on the walls, and it's -- they were not
7 able -- I didn't go into containment, of course,
8 during the time we were there. We did an earlier
9 inspection on this, but the insulation was fairly
10 well attached to the walls. It's on there with
11 bolts, so we don't --

12 MR. ROSEN: But the things that get
13 released when it's hit by a 2000 PSI stream of
14 steam --

15 MR. CLEMENTS: But there's not a LOCA
16 that could contain that. Because you have a feed
17 line break or a steam line break, and --

18 MR. ROSEN: So it would be 1000 PSI.

19 MR. CLEMENTS: Yeah, but not a LOCA
20 that --

21 MR. ROSEN: Right. Well, I would just
22 think that a higher energy --

23 MR. CLEMENTS: If you had a broken
24 primary, you don't put anything -- you have to put
25 in the sump, and you're not worried about resource.

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1 You have a breached primary, you don't worry about
2 the sump.

3 MR. JULIAN: He's saying the steam line
4 or feed line break would not challenge the reactor
5 --

6 MR. ROSEN: It wouldn't need to go to
7 --

8 MR. JULIAN: It wouldn't go to the
9 circulation.

10 CHAIRMAN LEITCH: I had two questions
11 that are perhaps more properly directed to the
12 staff, one on page 7 of this second inspection
13 report, and one on page 12. Page 7 talks about the
14 one-time inspection program, and it sounds like
15 that was yet to be developed at the time of this
16 inspection.

17 MR. JULIAN: That is correct. That's a
18 commitment, one of the commitments that Roger
19 discussed to be done on down the road.

20 CHAIRMAN LEITCH: And the same question
21 about the electrical aging management program.

22 MR. JULIAN: Their electrical aging
23 management program is in a very infancy of being
24 developed. They're one of the applicants who came
25 in originally and said the application said we need

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1 no aging management for electrical components. And
2 I think that they revised their position. Am I
3 correct?

4 MR. STEWART: That's correct.

5 MR. JULIAN: Yes. So they have a
6 description of their plans in the future. They
7 have yet to be developed yet for cable, primarily
8 cable inspection.

9 CHAIRMAN LEITCH: I guess, you know,
10 some of these where the aging management program is
11 a commitment to future industry action and the
12 industry's developing things, I'm not surprised
13 that that's the case but, you know, like the
14 one-time inspection program, I don't know what
15 future industry actions are required. I mean, why
16 couldn't that just be developed now?

17 MR. JULIAN: Correct me if I'm wrong,
18 Roger, but typically the one-time inspection
19 program is a different applicant group, done
20 different ways, but there may be more than one of
21 those things, and those are typically things where
22 the Staff feels like that, despite all assurances,
23 it would be good before the start of the extended
24 operating period to have a one-time inspection
25 inside branch lines, you mentioned on RCS, fire

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1 protection I think may be another. And those are
2 things that they have committed to do, but their
3 commitment is to do them before the start of the
4 extended period of operation, so they're going to
5 drop loose and do them right now.

6 MR. BARTON: You guys did look at the
7 electrical scoping when you were on site. What
8 seems to be peculiar in this application is that
9 there was a statement in here somewhere that
10 there's no medium voltage cabling that requires
11 aging management because it's not in an environment
12 that's conducive to degradation of the insulation.
13 All right. I find that hard to believe, that
14 there's no 4160 kind of cable that runs anywhere in
15 the plant.

16 There's another place in here that
17 talks about cables and manholes that are direct
18 buried. I assume that's in a conduit that's direct
19 buried, not in a duct pipe. You know, and none of
20 that is subject to any moisture, and none of that's
21 4160 cabling, or you know, I'm lost. This is the
22 first application I saw where there's no medium
23 voltage cable that's in aging management scope.
24 This plant must be in the air someplace or
25 something. Dry air.

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1 MR. HEATH: I'm Mike Heath. I'm the
2 Electrical Lead at the Robinson Plant.

3 MR. BARTON: Yeah.

4 MR. HEATH: The cable we're concerned
5 with is 4K, the medium voltage cable that's --

6 MR. BARTON: Right.

7 MR. HEATH: -- that's subject to eddy.

8 MR. BARTON: Right.

9 MR. HEATH: And it's in scope. At
10 Robinson, we've had no cable that's subject to
11 eddy. There was, in fact, a follow-up question on
12 this particular plant, and we're very unusual.

13 MR. BARTON: You sure are.

14 MR. HEATH: But it's - - most plants,
15 in fact, are going to have that, but in our case,
16 we don't.

17 MR. CLEMENTS: The safety systems are
18 almost exclusively 481.

19 MR. HEATH: And our service water pump
20 is 481.

21 MR. BARTON: None of your diesel
22 cabling or any of that stuff is subject to --

23 MR. HEATH: Diesel cabling is 481 --

24 MR. BARTON: It's all 481.

25 MR. HEATH: It's an unusual plant.

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1 MR. BARTON: I guess you are. Okay.

2 MR. SIEBER: Well, what do
3 you know?

4 CHAIRMAN LEITCH: In one of your
5 inspection reports, that there are no underground
6 tanks.

7 MR. JULIAN: Right.

8 CHAIRMAN LEITCH: Is that correct, or
9 is that too sweeping a statement?

10 MR. JULIAN: I believe that is true.

11 CHAIRMAN LEITCH: No underground tanks.

12 MR. SIEBER: That's what they say.

13 MR. JULIAN: The reason the titles
14 appear like that, because a lot of times the
15 applicants are following the GALL outline.

16 CHAIRMAN LEITCH: Right.

17 MR. JULIAN: Yeah, so we have some
18 strange titles.

19 CHAIRMAN LEITCH: Yeah. So there's a
20 section on underground tanks, and there are no
21 underground tanks.

22 MR. JULIAN: This is a program about
23 tanks, and there are no tanks.

24 CHAIRMAN LEITCH: Okay.

25 MR. BARTON: See, that's why this

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1 applicant, though, has all tank foundations in
2 scope, because all the tanks are above ground.

3 MR. SIEBER: And so their water.

4 CHAIRMAN LEITCH: I had one question on
5 page 12 of the first inspection report. It talks
6 about a pipe restraint tower, and it said the jet
7 impingement barriers were not in scope. I don't
8 know what I'm talking about there. I don't know
9 what a pipe restraint tower is or what the jet
10 impingement barrier is, but it kind of sounds
11 suspiciously like maybe it ought to be in scope.

12 MR. JULIAN: I think that's a tower
13 that runs up the side of the auxiliary building.

14 MR. REYNOLDS: The pipe restraint tower
15 is the area between the containment and the turbine
16 building structure that's separated from the
17 feedwater and the mainstream. The pipes run
18 through it. I'm Bob Reynolds. As far as the
19 impingement barriers, I'd have to look at that and
20 see. I don't recall - It's like it's not there or
21 they're not in scope.

22 CHAIRMAN LEITCH: It says it's not in
23 scope.

24 MR. REYNOLDS: If it's not in that area
25 then it's not in scope.

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1 MR. JULIAN: All right. I'm going to
2 hold on that issue. Let me reread that, so I could
3 get you an answer to that.

4 CHAIRMAN LEITCH: Yes, it's in your
5 first inspection report on page 12 it refers to it.

6 MR. JULIAN: I'll look it up and get
7 you an answer.

8 CHAIRMAN LEITCH: Okay. Thank you.

9 MR. JULIAN: That's all I have. Are
10 there any other questions?

11 CHAIRMAN LEITCH: Well, I believe we
12 are right on time for a break. And we are known to
13 be generous and have a 15 minute break, so be back
14 at quarter to 3.

15 (Whereupon, the proceedings in the above-entitled
16 matter went off the record at 2:29:06 p.m. and went
17 back on the record at 2:43:38 p.m.)

18 CHAIRMAN LEITCH: Let me just say that
19 right before we took the break, there was a
20 question about the jet impingement barriers not
21 being in scope, the piping. So we just wanted to
22 clarify that for the record.

23 MR. JULIAN: Right. We looked at that
24 during the break here in the application, and we
25 either misspoke in the report, or else we're

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1 talking about other jet impingement barriers up
2 there. The pipe clip restraints jet impingement
3 barriers are clearly stated as being in scope for
4 that pipe support tower, so that's the answer.

5 CHAIRMAN LEITCH: Good. Thank you.

6 DR. KUO: And, Mr. Leitch, let's see.
7 Dr. Bonaca had a question on the pressurizer spray
8 head, was it in scope or not.

9 CHAIRMAN LEITCH: Yes.

10 DR. KUO: I have Sam Miranda here. If
11 I could, he would --

12 CHAIRMAN LEITCH: Please do. We have a
13 microphone here. You just need to stand close to
14 that.

15 MR. MIRANDA: At this point, the
16 pressurizer spray --

17 DR. KUO: How do you spell your name,
18 please.

19 MR. MIRANDA: My name is Sam Miranda.
20 I'm from the Reactor Systems Branch. I reviewed
21 the question of the pressurizer spray head, as to
22 whether or not it should be in scope. And at this
23 point, I believe it does not need to be in scope.
24 It's pending confirmation from the applicant on
25 some licensing from operating experience they

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1 supplied, and this goes to an RAI.

2 They indicated at that time that for a
3 thorough search of international and American
4 operating experience, that they haven't seen any
5 instances where the pressurizer spray head would
6 degrade in operation.

7 MR. SIEBER: One of the interesting
8 things there, though, is you put the J-tubes in
9 scope and the steam generator, because you're
10 worried that pieces would fly off and stick in the
11 relief valve. And you've got the same situation in
12 the pressurizer, and I'm not aware from operating
13 experience of any J-tube that has failed and
14 generated pieces. They usually fail and they get a
15 hole in the bottom of the header. So, you know,
16 the reasoning isn't consistent.

17 CHAIRMAN LEITCH: Even with that, I
18 don't know that operating experience is
19 particularly a criteria for eliminating equipment
20 from scope, is it?

21 MR. MIRANDA: I wouldn't eliminate it
22 by itself on the basis of operating experience.
23 The difference between the spray head and the
24 J-tubes, in my mind, is that we have seen instances
25 of degradation in the feed rings of steam

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1 generators.

2 MR. SIEBER: That's right.

3 MR. MIRANDA: And that's a precursor --

4 MR. SIEBER: It's not in the J-tube
5 itself, it's in the ring.

6 MR. MIRANDA: It's in the ring, and in
7 the valves.

8 MR. SIEBER: Because of the turbulence.

9 MR. MIRANDA: Yeah, it's flow-
10 accelerated corrosion. There's also been flow-
11 accelerated corrosion in feed lines in several of
12 the thermal units.

13 DR. BONACA: But operating experience
14 -- I mean, we have 30 years of operating
15 experience, and these plants that go into 60 years
16 old, and I'm trying to understand. There are ways
17 to project, you know, expectation on equipment.
18 And what is it that gives comfort to this case that
19 this experience is still going to be valid 50 -- 30
20 years from now

21 MR. MIRANDA: That's a guess. And as
22 far as -- what I was looking for, what I'm still
23 looking for is a confirmation from the applicant, a
24 statement that says something like there's been no
25 such corrosion, no indications that something might

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1 happen. Whereas we have seen things like that on
2 the feed rings, I haven't gotten that kind of
3 information about the spray head. I was looking
4 for the precursor to this part.

5 DR. BONACA: I guess what troubles me
6 has been the changing story from plant to plant.
7 We've seen, I think in general this spray head is
8 out of scope. The last plant we saw it was out of
9 scope because the issue was that, yeah, they could
10 fail, but they don't need it to get down to cold
11 shutdown because even if the spray head is not in
12 service, they can still, you know, depressurize and
13 come down slowly but surely down there. That was
14 one of the reasons why it's not in scope. Now we
15 find a new reason why it's not in scope.

16 MR. BARTON: Is this thing too hard to
17 look at or what?

18 DR. BONACA: It must be. I mean, there
19 has to be something -- I think, if I were a spray
20 head, I would feel so bad. I mean because --

21 MR BARTON: You're ignored, right.

22 MR.ROSEN: Can't anybody detect this
23 other part?

24 MR. SIEBER: Nobody even wants to look
25 at you.

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1 MR. ROSEN: That's right.

2 MR. MIRANDA: I would also consider as
3 to why the spray head would not be available. If
4 there was such -- if there were a failure mechanism
5 that you could conceive of that would cause no
6 spray to be available, then I would be concerned.

7 MR. SIEBER: But that's not the case.

8 MR. MIRANDA: That's not the case.

9 MR. SIEBER: On the other hand, if the
10 head is missing and you're putting a stream of
11 water and no spray, you don't get much
12 depressurization at that point, so the failure
13 could be --

14 MR. STEWART: It's not in the fire code.
15 We don't have to have a pressurizer spray to
16 depressurize the plant. It is one method. It's
17 not the only method.

18 MR. SIEBER: That's true.

19 DR. BONACA: It is one method. It is
20 the primary method. It's what you're advising them
21 to use.

22 MR. SIEBER: It's the method that
23 worked.

24 DR. BONACA: It's the method that
25 works, and it's the method the operator used to

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1 use. I mean, that's the important point, too.

2 MR. BARTON: But if it don't work, it'll
3 confuse him because he's used to using it.

4 DR. BONACA: Okay. Now I understand
5 where the commitment is. You're expecting
6 confirmation of operating experience that shows
7 that degradation has not occurred.

8 MR. MIRANDA: Yes.

9 CHAIRMAN LEITCH: Okay. S.K.

10 MR. MITRA: Again, I am S.K. Mitra,
11 Project Manager for Robinson Nuclear Plant. I'll
12 start with Section 3, which is an aging management
13 review. And GALL divides the system into six
14 distinguished groups, the reactor system;
15 engineering safety feature system; auxiliary
16 system; steam and power conversion system;
17 containment, structure and component support; and
18 electrical and instrumentation control.
19 On the aging management review, the aging
20 management program is the most important program in
21 the aging management review, so we'll address it
22 right on top. We have 12 common aging management
23 programs. Common means it goes across the
24 different systems and structures, like boric acid
25 program, the chemistry program, and all those. And

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1 26 system and structural group-specific AMPs, which
2 is just in one system, the reactor system or
3 auxiliary system, specifically for that.

4 Out of that we have, consistent with GALL, we have
5 13 verbatim consistent with GALL. We have 18 of
6 them, some kind of deviation was taken. There's
7 seven non-GALL programs, and --

8 CHAIRMAN LEITCH: S.K., I had a
9 question right on that point. In the applicant's
10 table, the sections that have a suffix of .1, they
11 say that that means that it's evaluated in GALL.
12 And .2 means different from GALL or not evaluated
13 in GALL. And the SER on page 3-2 says that .1
14 means evaluated in GALL, and those that were not
15 evaluated in GALL, but can be managed using GALL or
16 an associated AMP. So I guess I'm confused. There
17 seems to be a difference between the licensee's
18 description and the SER description as to where
19 those programs fit that are the ones that you
20 describe as consistent with GALL, but with some
21 deviation. Are they under the .1 section, or the
22 .2 section?

23 MR. MITRA: These are the -- where they
24 mention it in SER, that paragraph that's talking
25 about aging management review tables that 3.X.1 of

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1 the tables, which is either consistent with GALL or
2 same material environment where aging affects the
3 component, that's in the 3.X.1 table. And the
4 3.X.2 table is that which are not -- it's non-GALL
5 components. But that's what I think it was -- it's
6 nothing to do with aging management programs. The
7 aging management programs are not described in any
8 of the tables. This is in Appendix B.

9 CHAIRMAN LEITCH: Yes. I should say
10 aging management review, not aging management
11 program. I guess, I don't know that it makes a
12 great deal of difference, but I would just say that
13 it appears as though the applicant's tables under,
14 say, 3.X.1 and 3.X.2, their definition is different
15 than the definition that's used in the SER on page
16 3-2.

17 MR. MITRA: Okay. I will take a look
18 at that because off-hand I don't remember the
19 difference.

20 CHAIRMAN LEITCH: Sure. Okay.

21 MR. MITRA: I'll address that.

22 CHAIRMAN LEITCH: It's a fine point,
23 but just a point of confusion. There's no problem
24 with those that are consistent with GALL, or those
25 that are not in GALL. They're clear enough, but

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1 that middle category, it's a question of which
2 table it's in. Is it .1 or .2?

3 MR. MITRA: Some of that -- the
4 division that needs further clarification, that is
5 in Table 1. And all of them that are not in GALL
6 are in Table 2. That's my understanding. Am I
7 right, Roger?

8 MR. STEWART: On the aging management
9 programs, the Table 3.X.1, 3.X.2 has no bearing in
10 terms of consistent with GALL here. On 3.X.1 and
11 3.X.2 tables, there was a specific RAI, but the
12 Staff asked us to clarify how we determined whether
13 a component or item was in Table 1 versus Table 2.
14 And S.K. is correct in terms of what we basically
15 responded there, that it's the same as GALL. It's
16 in Table 3.X.1.

17 Additionally, if we had something that might be a
18 different component, provided that component has
19 the same material, same environment, same aging
20 effects and we rely on the same program as GALL, we
21 put it in 3.X.1, even though it might be a
22 component that they didn't list in GALL.

23 CHAIRMAN LEITCH: Okay.

24 MR. STEWART: And then 3.X.2 was the
25 stuff that's different with GALL, so you will find

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1 some stuff in 3.X.1. It might be a different
2 component or something that GALL didn't explicitly
3 mention it, but we looked at it. As long as it's
4 the same material, same environment, same aging
5 effect, and using the same program, we put it in
6 3.X.1.

7 CHAIRMAN LEITCH: Okay. That helps.

8 MR. SIEBER: But that arises because
9 you didn't do it on a system basis. You did it on
10 plant basis. Correct?

11 MR. STEWART: We followed the same
12 groupings in GALL in terms of reactor systems,
13 ECCS. If we went through and broke down our stuff,
14 we might find we had a different component
15 nomenclature, say, than GALL, and that's where we
16 would come up and identify --

17 MR. SIEBER: You had 19 auxiliary
18 systems in the plant, but you didn't have 19
19 references in your table on a system-by-system
20 basis.

21 MR. STEWART: Correct.

22 DR. KUO: This is the one thing
23 actually that we will consider when we revise the
24 GALL documents. But, you know, we heard a lot of
25 comments on this area. You know, I've got a

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1 component which has the same material, in the same
2 environment --

3 MR. SIEBER: And why do I have to have
4 two different programs.

5 DR. KUO: So this is something that we
6 need to consider when we update the GALL.

7 MR. SIEBER: Yes, I think part of that
8 is the way you think about them. Because, for
9 example, I think in terms of systems and commodity
10 lists, and other people think of it another way,
11 but we all should be versatile enough to be able to
12 accept the other person's point.

13 DR. KUO: Right.

14 MR. SIEBER: And I'm working on that.

15 MR. MITRA: Okay. And the last bullet
16 said that we have AMPs that are addressed in the
17 C.0.3 section, and there are other AMPs which are
18 the other 26 AMPs which are good specific AMPs
19 there with each of the systems and structures.
20 Again, the total number of AMPs was 38, and the
21 number of AMPs that are originally came with the
22 license renewal application was 34. Four AMPs were
23 added, and these are the four AMPs we listed:
24 radiation monitoring instrumentation non-EQ cable,
25 neutron flux instrumentation cable, fuse holders,

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1 and bus ducts. We do that all in the electrical.
2 Some of the RAIs, some in the SBO.
3 We have conducted an audit, and this is an audit
4 done by the NRR Staff, and specifically from
5 License Renewal group, five project managers with
6 various experience went down and audited the AMPs
7 that claimed to be consistent with GALL. All of
8 them have been audited, and we compared the
9 attributes, the ten attributes of the GALL with the
10 ten applicant's attributes to see if they're really
11 consistent. And we have found a couple of places
12 that might not look like it's consistent with the
13 GALL attribute. We talked to the plant staff - I
14 mean the applicant's staff and some of the
15 documents were revised as we were doing our audit.
16 And now we found all of them are consistent,
17 excepting one, the non-EQ insulated cable and
18 connections program. That program lacked enough
19 detail for us to make a conclusion whether it's
20 consistent with GALL, so we asked the applicant to
21 revise the program to at least have -- you know,
22 compare them with the GALL and have all ten
23 attributes. They did devise a program, sent it to
24 our technical staff in NRR, and they looked at it,
25 and they found it acceptable.

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1 DR. KUO: This audit has been done on a
2 100 percent basis, so they audited all the programs
3 that they have.

4 MR. MITRA: Section 3.1 had reactor
5 systems, and in reactor systems we have the
6 subsystems: the reactor coolant system piping,
7 reactor coolant pumps, pressurizer, reactor vessel,
8 reactor vessel internals, steam generators. We had
9 nine confirmatory items on that, no open items, and
10 we are waiting for the Staff to look at the
11 response to the confirmatory items to accept or so
12 they can resolve.

13 CHAIRMAN LEITCH: I'm sorry. I missed
14 one two slides back, I guess --

15 MR. MITRA: Okay.

16 CHAIRMAN LEITCH: -- where you had the
17 neutron flux instrumentation cable. There was an
18 open item there that -- that's it. I guess the
19 Staff was concerned about the ten-year frequency of
20 testing. Now how has that issue been resolved? Is
21 it still ten years?

22 MR. MITRA: It's ten years, and the
23 first one would be done before the end of the
24 extended period, and after that, each ten years.

25 CHAIRMAN LEITCH: So the concern about

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1 the ten years being too infrequent went away?

2 DR. KUO: Amar, can you address that?

3 MR. PAL: Yes. It's not a concern
4 anymore.

5 CHAIRMAN LEITCH: Okay. Was some of
6 the basis for that that failure had not been
7 experienced?

8 MR. PAL: Operating experience and --

9 MR. MITRA: Come forward, please. And,
10 again, identify your name.

11 MR. PAL: Yes. Operating experience
12 shows that they didn't have any failure. There was
13 one bulletin published over that, and that
14 essentially changed some of the cables part of the
15 bulletin. And the other part, I believe neutron
16 flux monitoring, they did not change. It was not
17 required to change. And that cable is the same
18 cable as the other cables, and that was in
19 existence for over 30 years, and no failure, and no
20 problem occurred. So based on that, we believe
21 that aging is a slow process for cable and
22 consistent with the other cable aging management
23 programs.

24 CHAIRMAN LEITCH: Okay. So it's still
25 in scope, still in the AMP for ten years?

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1 MR. PAL: Yes.

2 CHAIRMAN LEITCH: Okay.

3 MR. MITRA: Any other question on this?

4 CHAIRMAN LEITCH: No. I'm sorry to
5 take you back. You were a couple ahead of this.

6 MR. MITRA: That's okay. We went
7 through that. And I thought we should specify the
8 Alloy 600 Program. NRC Order EA-009-03 requires
9 augmented inspections for Alloy 600 nozzles to
10 upper reactor vessel head during the current
11 licensing basis. And the Bulletin 2003-03
12 addresses cracking in the Alloy 600 penetration
13 nozzles adjoined to the lower vessel head, and that
14 is being addressed by the applicant. And the
15 formal -- I think we didn't get the formal response
16 to that. They will -- I think they will follow
17 what is the bulletin has said. And as other Alloy
18 600 and Alloy 82/182 issues arise, staff will
19 address them within the current operating term.
20 And as Jim Medoff said, there is a commitment by
21 the applicant to submit the Alloy 600 program to
22 the Staff for review and approval by July 31, 2009,
23 which is a year before the operating period, and
24 the commitment would permit the Staff to review the
25 AMP for acceptability against NRC requirements, if

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1 any future requirement that would be, and as well
2 as those inspection activities that Jim had
3 mentioned on EPRI-MRP Class 1 Alloy 600-based
4 metals, and on 82/182 weld materials.

5 MR. ROSEN: And this was the year
6 before the current licensing term expires that was
7 mentioned earlier.

8 MR. MITRA: Right.

9 DR. BONACA: The Alloy 600 would
10 include other commitments that they try to have
11 with Alloy 690? There would be some --

12 MR. SIEBER: I don't think they have
13 any.

14 MR. MITRA: Jim is raising his hand.
15 Come on up.

16 MR. MEDOFF: This is Jim Medoff with
17 Materials and Chemical Engineering Branch. I've
18 reviewed the orders. I think replacing the head
19 does not get you out of examinations. It just --
20 because it's supposed to be an approved material,
21 it just defers it out a little bit, so just the
22 fact that you've replaced the head doesn't mean you
23 don't have to follow the orders.

24 MS. COFFIN: You might have to change the title of
25 the program.

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1 MR. MEDOFF: Right.

2 DR. BONACA: I wanted to make sure the
3 program wasn't so restrictive as just talking in
4 this example. I mean, they'll have interim
5 material in that time.

6 MR. SIEBER: Let me, since we're
7 talking about Alloy 600, a lot of plants in this
8 class of plants have a requirement in the tech
9 specs for augmented inspection of the reactor
10 vessel safe end. Is this one of those plants where
11 safe end is an augmented inspection?

12 MR. BAUCOM: This is Chuck Baucom with
13 the licensee, the applicant. We do not have such a
14 requirement in our technical specifications. We do
15 look at our dissimilar metal welds in accordance
16 with various Section 11 programs.

17 MR. SIEBER: That's right. But usually
18 the augmented inspection is more frequent and
19 sometimes requires volumetrics; whereas the
20 standard inspection is a VT, a visual.

21 MR. BAUCOM: I'm not aware that we're
22 considering augmented exams at this time.

23 MR. SIEBER: You ought to think about
24 that a little bit. Yes, sir.

25 MR. MEDOFF: This is Jim Medoff again.

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1 For the Summer issue, since the MRP has not
2 finalized its activities on the safe end nozzle
3 welds, the commitment by the applicant should pick
4 that up.

5 MR. SIEBER: Okay. Well, that's one
6 example, but the issue of safe ends has been around
7 since the 1970s.

8 MR. MEDOFF: Right. We haven't
9 forgotten about the Summer issue. It's still
10 something that we need to talk to the MRP about
11 addressing.

12 MR. SIEBER: Okay. I'll sleep better
13 tonight. (Laughter.)

14 MR. MITRA: In Section 3.2, we go to
15 engineered safety features (ESF) systems, and that
16 covers residual heat removal, safety injection,
17 containment spray, containment air recirculation
18 cooling, containment isolation. We don't have any
19 open or confirmatory items on that.

20 And 3.3 is the auxiliary system. We have 19
21 auxiliary subsystems described in Section 3.3, and
22 we have three confirmatory items, no open items.

23 CHAIRMAN LEITCH: Does one of those
24 confirmatory items have to do with radioactive
25 equipment drains, whether they're in scope or not

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1 in scope?

2 MR. MITRA: Yes.

3 CHAIRMAN LEITCH: What was the
4 resolution of that?

5 MR. MITRA: That they are not in scope,
6 and we have a confirmatory item, but the applicant
7 has explained, and I will have Renee Li of Staff
8 explain why it's not in scope.

9 MS. LI: The system is in scope. Okay. It is a
10 stainless steel piping exposed to raw water, and
11 the applicant has identified loss of material due
12 to crevice pitting and leak, but the applicant
13 states that those aging effects on mechanisms would
14 not impact the system function. Okay. And so we
15 ask RAI, request applicant to elaborate why they
16 make that conclusion. And based on their response,
17 I think first of all, because it is the drain
18 system, so normally it is dry. Okay. So they
19 expect the corrosion rate due to the drain would be
20 very insignificant. But also, the concern say if
21 degradation would occur, then the blockage -- okay.
22 The blockage is due to its own corrosion but, you
23 know, they already say the corrosion rate would be
24 very insignificant, and blockage due to external
25 source, because they have strainer that would

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1 prevent, you know, debris getting into it. And
2 also, actually, this system is under -- I think
3 Robinson has a leakage, refuse leakage program
4 which normally that including operator wrong,
5 assessment, walkdown and all that. And, moreover,
6 I think I did ask them how about looking into the
7 interaction between a partial failure of this
8 system to the nearby safety-related system, and
9 their answer is there is no special interaction.
10 So based on all of this, I accept their response
11 that no -- degradation of the system would not
12 impact its intended function.

13 CHAIRMAN LEITCH: Okay. I guess I
14 understand why there's not a degradation that would
15 impact its function. I guess my question was why
16 did we think it was in scope in the first place?
17 What criteria did it --

18 MS. LI: Because it is still a pressure boundary, I
19 think.

20 MR. STEWART: Containment penetrations.

21 MS. LI: Right. It is a pressure boundary.

22 CHAIRMAN LEITCH: I'm picturing --
23 maybe I don't picture what this system is exactly.
24 I'm picturing, like, an equipment bed plate drain
25 kind of thing. Is that what we're talking about

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1 here?

2 MR. STEWART: This is Roger Stewart.
3 That's one piece of it. Part of it -- originally
4 it was in scope because you had containment
5 penetration, so anything that's a containment
6 penetration is in scope, so we had some of that.

7 CHAIRMAN LEITCH: Okay.

8 MR. STEWART: In addition, we put it in
9 scope because when we looked at some of our
10 flooding analysis, or particularly with fire
11 protection, some of the flooding analysis, we rely
12 on these drains to carry the water away and not
13 cover up some of the switchgear stuff, so that
14 brought portions in scope that you're thinking
15 about in terms of the floor drains and grates and
16 stuff.

17 CHAIRMAN LEITCH: Right. Okay. Good.
18 So understanding why it's in scope, then I
19 understand, you know, why it doesn't have a
20 credible or a problematic aging mechanism.

21 MS. LI: Okay.

22 CHAIRMAN LEITCH: Yes. Thank you.

23 MR. MITRA: I lost it.

24 MR. ROSEN: Any questions on the material
25 he's covered?(Laughter.)

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1 MR. MITRA: Here we go. Section 3.4,
2 we covered steam and power conversion systems. And
3 there's 12 steam and power conversion systems. We
4 don't have any open items, any confirmatory items
5 on that.

6 3.5 is the containment structures, and component
7 supports. That includes containment structure and
8 13 other structures. And we have one confirmatory
9 item, no open items. And we'll show that
10 confirmatory item. I think you are interested in
11 that.

12 Inaccessible concrete. That's what you have asked,
13 and we have our experts in the back. The below-
14 grade soil or water aggressiveness, pH is slightly
15 lower than the threshold of 5.5. I was asked what
16 slightly means. It's about 5.46, so just about
17 there. The prime indicator is inspection of intake
18 structure, dam spillway, excavated reactor
19 auxiliary building foundation and manholes. And
20 periodic testing of ground water to monitor any
21 change. And it will be done every year, once a
22 year, testing of ground water. And commitment was
23 given to resolve below- grade degradation issue
24 through enhancement of the structural monitoring
25 program and IWL.

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1 DR. BONACA: Would you describe these
2 enhancements of the structural monitoring program?

3 MR. MITRA: As I said, that they have
4 committed to do an inspection of the dam spillway
5 and intake structure every ten years. And any time
6 they have excavated any of the structure, they will
7 do the inspection. They will look for the
8 degradation of concrete, and that's how they will
9 enhance that. And they will be training in it to
10 see how the degradation progresses.

11 SPEAKER: What's the IWL here? Is that the ASME
12 code section?

13 MR. SIEBER: Yes, Section 11.

14 SPEAKER: "Through enhancements of IWL." What do you
15 mean by that?

16 DR. KUO: Hans Asher is raising his
17 hand. I think he's waiting to answer the question.

18 MR. ASHER: It's enhancement of the
19 structure monitor program, and IWL. IWL is not
20 being enhanced.

21 MR. ROSEN: I would think you would
22 have difficulty doing that.

23 DR. BONACA: And for inaccessible
24 concrete, you do have opportunistic inspections.

25 MR. MITRA: I didn't get the question.

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1 DR. BONACA: For inaccessible concrete.

2 MR. MITRA: Yes.

3 DR. BONACA: You do have opportunistic
4 inspections.

5 MR. MITRA: Yes.

6 DR. BONACA: So the same thing.

7 MR. ROSEN: Now that you cleared up
8 whether you're going to enhance IWL or not, what
9 does the reference to IWL there mean?

10 MR. ASHER: Let me explain. I'm Hans
11 Asher from the Division of Engineering. Basically,
12 IWL program by itself does not include the
13 inspection of the below-grade portion of the
14 containment structure. Now what the applicant did
15 was that for containment, they announced the IWL
16 program to include that inspection, if needed, in
17 that program, in the early part of the
18 announcement. For other structures, they included
19 the below-grade structural degradation monitoring
20 under the structural monitoring program, so that's
21 why both things appear over here.

22 MR. ROSEN: So the applicant has
23 committed to exceed the requirements of IWL.

24 MR. ASHER: That's correct.

25 MR. ROSEN: That's what that reference

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1 is about.

2 MR. ASHER: That's what I would
3 understand, yes.

4 MR. ROSEN: Okay.

5 MR. MITRA: Any other questions?

6 CHAIRMAN LEITCH: I suppose the dam was
7 filled in conjunction with Unit 1, so it's older
8 than Unit 2?

9 MR. MITRA: The dam was older than the
10 units.

11 CHAIRMAN LEITCH: So we would then
12 conclude that the dam might be -- the dam spillway
13 might be a leading indicator. Is that why we're
14 accepting that?

15 MR. MITRA: Yes.

16 MR. REYNOLDS: I just wanted to say,
17 you mentioned the pH - Bob Reynolds, Progress
18 Energy. He mentioned that the pH was 5.46. That's
19 for the lake water. That's average for the lake
20 water, and the actual groundwater is more like a
21 little bit above 4, about 4.4, 4.35, in that range,
22 so that was the main reason --

23 MR. ROSEN: So it's much more
24 aggressive than the lake water.

25 MR. REYNOLDS: Yes.

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1 MR. MITRA: And Bob had some number for
2 sulfates and chloride. Do you want to give that?

3 MR. REYNOLDS: Yeah, I don't have them
4 handy with me, but they're very minimal. It's,
5 like, less than 20 or 30 parts per million I
6 believe it was. It's very, very minimal for
7 sulfates and chlorides.

8 DR. BONACA: And phosphate also is
9 minimal?

10 MR. REYNOLDS: We actually have some
11 test results from years ago, and it's .05 parts per
12 million.

13 MR. MITRA: Any other questions?
14 Section 3.6, Electrical and I&C. And we have three
15 component commodity groups. This is a little
16 different. The electricals, they have -- the aging
17 management review was done on a commodity basis, so
18 they have three of the commodity groups which are
19 subject to aging management review, bus ducts,
20 insulated cables and connections, and
21 electrical/I&C penetration assemblies. We have
22 three confirmatory items. There're no open items.
23 And there are four AMPs added to following
24 components: radiation monitoring instrumentation
25 non-EQ cable, neutron flux instrumentation cable,

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1 fuse holders, and bus ducts. These are not
2 ordinarily submitted with the license renewal
3 application. These are submitted after the RAI
4 process has gone through, and some of them as a
5 result of station blackout.

6 Now go to Section 4, TLAA's, Time-Limited Aging
7 Analyses. And this is how it's organized in GALL
8 and organized in application: the identification of
9 TLAA's, reactor vessel neutron embrittlement, metal
10 fatigue, environmental qualification, concrete
11 containment tendon prestress, and other TLAA's that
12 include thermal aging embrittlement, LBB or leak-
13 before-break analysis; foundation pile corrosion;
14 elimination of containment penetration coolers; and
15 aging of Boraflex. And we'll go through each of
16 them as we progress.

17 The reactor vessel neutron embrittlement. The
18 tables show that pressurized thermal shock is blow
19 their limit. The limit is 300 for circumferential
20 welds, and RNP have 275 degree Fahrenheit. And for
21 plates, forgings, and axial welds, the limit is 270
22 degree Fahrenheit, and the RNP is 235, so it's well
23 within the limit.

24 Reactor Vessel Upper Shelf Energy (USE), the table
25 shows that it's minimum foot-pounds is 50 for

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1 welds/forging. The RNP foot-pounds are 56. For
2 plate materials, the equivalent margin analysis,
3 the limit is 42. RNP has 45. Nozzle forging, the
4 limit is 50 foot-pounds, RNP is 53, and nozzle
5 welds minimal limit is 50, and RNP of 52.

6 And by the way, for both of these Staff performed
7 their independent calculation. They looked through
8 and made their calculation independent of the
9 application.

10 MR. ROSEN: Let me congratulate you for
11 making this easy for us.

12 MR. MITRA: Thank you.

13 MR. ROSEN: Because this slide and the
14 previous one will save us about an hour's worth of
15 discussion.

16 DR. KUO: We learned a lesson from last
17 year. (Laughter.)

18 MR. ROSEN: Lesson learned.

19 CHAIRMAN LEITCH: At the risk of,
20 perhaps, adding to the discussion -- it was so good
21 -- but I guess what you're saying is the nominal
22 limit in that plate materials would have been 50
23 foot-pounds also?

24 MR. MITRA: Yes.

25 CHAIRMAN LEITCH: But you used an

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1 alternate method, I guess, this equivalent margin
2 analysis, and I'm not sure --

3 MR. MITRA: Jim Medoff is raising his
4 hand. Come on.

5 MR. ROSEN: That's the disadvantage of
6 making it clear.

7 MR. MITRA: Yeah. (Laughter.)

8 MR. MEDOFF: The Upper Shelf Energy for
9 reactor vessel plate materials is covered by 10 CFR
10 Part 50, Appendix G. The rule requires that we
11 have 75 foot-pounds for your materials initially
12 without any irradiation, and then they have to
13 maintain their values above 50 foot-pounds through
14 the end of the life of the plant. If you don't
15 meet that, what the rule requires you to do is use
16 a refined analysis regarding equivalent margin
17 analysis. And Robinson is an early vintage plant,
18 Westinghouse plant, and for those early vintage
19 Westinghouse designs, Westinghouse did a generic
20 equivalent margins analysis. So what I did was I
21 went to the safety evaluation, got the value for
22 the plate materials in this, and then confirmed
23 that their Upper Shelf for those materials would be
24 above the approval --

25 MR. ROSEN: What safety evaluation are

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1 you talking about, the Westinghouse?

2 MR. MEDOFF: No. It was our safety
3 evaluation on the WCAP.

4 MR. ROSEN: Okay.

5 MR. MEDOFF: So I can get that for you
6 if you want.

7 MS. COFFIN: Essentially, it's just a refined
8 fracture mechanics evaluation as opposed to basing
9 it on the Charpy tes.

10 MR. MITRA: Can you identify yourself,
11 because he is going crazy.

12 MR. ROSEN: Tell us who you are.

13 MS. COFFIN: Oh, Stephanie Coffin. Sorry.

14 CHAIRMAN LEITCH: On a point close to
15 that, there was a discussion about Capsule U, and
16 it wasn't clear to me. It looked as though the
17 record perhaps on Capsule U is unclear.

18 MR. MEDOFF: Well, that's not a TLAA.
19 That's the reactor vessel surveillance aging
20 management program, which goes into the PTS
21 assessment, and the surveillance data goes into
22 the PTS assessments and the upper shelf energy
23 assessment, so there's an interrelation. But the
24 question was actually under the management program,
25 because we can project our neutron fluences for the

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1 capsule based on leak factors, where they stand
2 inside the reactor. And the licensee had actually
3 moved that capsule, so we had some questions on how
4 the leak factors for the capsules had changed. But
5 they addressed all our questions on that.

6 CHAIRMAN LEITCH: Okay. Good. Thank
7 you.

8 MR. MITRA: Section 4.3, Metal Fatigue.
9 And auxiliary feedwater line fatigue. The 4-inch
10 by 16-inch AFW and main feedwater connection, maybe
11 they're fatigue critical. And it might be this
12 Cumulative Usage Factor (CUF) equal to 1 at
13 approximately about 50 years of operation, and that
14 is based on projections of actual transients to
15 date. And the applicant committed that this
16 transient will be tracked by fatigue management
17 program. The components will be either re-analyzed
18 or replaced prior to exceeding cycles of transients
19 tracked by the fatigue monitoring program. And
20 they committed to revise the UFSAR supplement in
21 Confirmatory Item 4.3.2-1.
22 Environmentally-Assisted Fatigue is projected that
23 that will be Environmentally-Assisted Fatigue
24 adjusted CUF more than 1 for pressurizer surge line
25 during extended period of operation. And applicant

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1 committed to do fatigue of surge line. It will be
2 managed using one or more of the following options.
3 They will refine the fatigue analysis to lower the
4 CUF to less than one. They will repair the
5 affected location. They may replace the affected
6 location, or manage the fatigue by using NRC-
7 approved augmented ISI program. And the applicant
8 is to provide the details of this ISI program for
9 NRC Staff to review and approve prior to the period
10 of extended operation, if Option 4 is selected.
11 And, again, revision of UFSAR supplement will be
12 addressed in confirmatory item. Any questions?

13 CHAIRMAN LEITCH: Could you go back to
14 that aux feedwater line?

15 MR. MITRA: Yes.

16 CHAIRMAN LEITCH: I guess, the way I
17 read this thing, it appeared as though they had
18 taken a shot at the number of cycles. And then
19 they found out in reviewing this that, based on
20 that number of cycles, this was not qualified even
21 for 40 years. And then they went back and they
22 came up with a cumulative usage factor of .99. And
23 I suspect being a number like .99, the way they got
24 that was to assume a number of cycles that gave
25 them .99. That's for 40 years. Now we're saying

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1 it's going to be okay for 60 years based on some
2 other number of cycles. Is that number of cycles
3 reasonable?

4 MR. MITRA: Again, Ken Chang, the
5 reviewer for that can answer that.

6 DR. CHANG: My name is Ken Chang.
7 Right now I'm in the License Renewal Branch, but
8 six months ago I was in EMEB doing the TLAA review
9 and a little bit of SER. This auxiliary system,
10 auxiliary feedwater connection, for the 16 inch,
11 there are two kind of auxiliary feedwater pump.
12 There's steam-driven and air-driven. There's six
13 connections. All of those are two types. One type
14 was replaced, and the other type was trying to
15 analyze a way out. When they analyzed the way up,
16 they found out that there's a mistake, one mistake
17 involving the calculation, so they decide to do a
18 more refined calculation.
19 The first five was difficult, and then refined
20 calculation qualified the 40 years, no problem.
21 But we need 60 years. So based on the latest
22 operating experience, extrapolate the transients
23 which happen in the last few years for the future,
24 between now and the renewal license, the extended
25 operation period starts. And they can

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1 approximately get 50 years at that time, a usage
2 factor approaching one. So, therefore, based on
3 the current knowledge of transient and
4 extrapolation, it's only up to 50 years usage
5 factor. We will get to the limit. However, the
6 operating is getting better and better. The
7 transient counting and the transient recording is
8 also getting better.
9 The trend in the past is, the last few years the
10 usage factor increase very slowly. And going by
11 that trend, there may be some hope that by the time
12 we extend operation into the end of current period,
13 the usage factor is not that high, and you
14 extrapolate this on that data that it's going to be
15 better, so there is hope. Refined calculation may
16 get you over to be less than one. And that would
17 be acceptable; however, we cannot count on that.
18 So the applicant agreed, for the second option, if
19 they cannot show less than one before the extended
20 period starts, they replace it. So to me, this is
21 acceptable.

22 MR. SIEBER: And that's not a big deal
23 either.

24 DR. CHANG: No, not a big deal. This
25 is not Class 1 type.

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1 MR. SIEBER: Right.

2 MR. ROSEN: So it's just a T; right? A
3 4-inch by 16-inch T?

4 DR. CHANG: Branch connection. Key
5 would be very difficult.

6 MR. SIEBER: It's a reducer.

7 MR. ROSEN: It's a reducer.

8 DR. CHANG: Yes. We call it a reducing
9 T or branch connection. Normally, the ratio is --
10 you know, the run to the branch exceeding 3 or 4 is
11 a branch connection. Otherwise, it's T.

12 CHAIRMAN LEITCH: Is there a commitment
13 then to replace if it goes over one? I mean, I
14 thought maybe if it was a touch over one that --

15 DR. CHANG: At the end of 40 years, if
16 they cannot demonstrate with analytical methods
17 that the usage factor at the end of 60 years will
18 be less than one, they replace at that point.

19 CHAIRMAN LEITCH: Okay.

20 DR. CHANG: So there's no risk involved
21 here, if we trust the analytical tool.

22 CHAIRMAN LEITCH: Yes. Okay. Thank
23 you. Good explanation.

24 MR. MITRA: Section 4.4, addresses
25 environmental qualification (EQ) and applicant EQ

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1 program consistent with GALL. Staff concluded the
2 EQ program will continue to manage equipment in
3 accordance with 10 CFR 50.49, and meets 10 CFR
4 54.21(C)(1)(iii). And we put GSI-168,
5 "Environmental Qualification for Low-Voltage
6 Instrumentation and Control Cable." We addressed
7 that on Fort Calhoun, that Staff have issued RIS
8 2003-09 on May 2, 2003. And the issue is closed,
9 and no actions are required on license renewal
10 basis.

11 Now Concrete Containment Tendon Loss of Prestress.
12 It's addressed in Section 4.5, and the prestress
13 losses are estimated for 60 years, and the Staff
14 finds the estimation is reasonable. The Staff's
15 concerns are with the grouted tendon, which as we
16 already discussed, is one of a kind. Tendon
17 monitoring is not possible. But the applicant
18 agreed to perform two tests similar to the
19 Structural Integrity Test during the period of
20 extended operation at Design Basis Accident
21 Pressure. And the measurement and observation
22 verified the behavior of the containment. Any
23 question on that?

24 MR. ROSEN: What do you mean by two
25 tests?

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1 MR. MITRA: Similar tests like
2 Structural Integrity Testing.

3 MR. ROSEN: But why two tests? Why --

4 MR. CLEMENTS: One now, and one at a
5 later period of time.

6 MR. ROSEN: One now, you mean --

7 MR. CLEMENTS: Yes. Towards the end of
8 the existing license, and one ten years into the
9 license.

10 MR. ROSEN: Oh, I see.

11 MR. CLEMENTS: What we do is it's the
12 same period of time as the pressurizer containment
13 mini test that we'll do this test.

14 MR. STEWART: We're alternating the
15 required Appendix J Integrated Leak Break Test to
16 take these additional measurements and monitor the
17 behavior for the tendons to see if --

18 MR. ROSEN: One before 40 years, and
19 the other one around 50.

20 MR. STEWART: No, sir. These were both,
21 the commitments, both in the period of extended
22 operation.

23 MR. ROSEN: Both in that period of
24 extended operation.

25 MR. STEWART: Yes, sir.

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1 MR. ROSEN: Well, the first one is early
2 in the period of extended operation.

3 MR. STEWART: Yes, sir.

4 MR. ROSEN: And the other one is midway?

5 MR. STEWART: Yes.

6 MR. ROSEN: That sounds appropriate.

7 MR. MITRA: Any other questions? Other
8 TLAAs. We have thermal aging embrittlement and
9 leak-before-break analysis. The applicant evaluated
10 the validity of leak-before-break analysis of the
11 main loop piping for the period of extended
12 operation. The leak-before-break analysis included
13 the effects of thermal aging on the fracture
14 toughness properties and the critical crack size
15 analysis for cask material. The Staff reviewed the
16 leak-before-break analysis and found it acceptable.
17 Foundation Pile Corrosion, addressed in 4.6.2. The
18 applicant still -- the Robinson Nuclear Plant's
19 steel piles are under the Category 1 structure. And
20 applicant compared material and environment to EPRI
21 Report, TR-103842. The conclusion from that
22 comparison is insignificant corrosion. The RNP
23 steel piles are in undisturbed natural soil, and
24 they are not appreciably affected by the corrosion
25 due to deficiency of oxygen, and the same on the

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1 groundwater also. And the Staff finds the TLAA
2 finding is acceptable.

3 MR. SIEBER: I have a question on this
4 one.

5 MR. MITRA: Okay.

6 MR. SIEBER: You have Category 1
7 structure supported by piling and the other
8 structures adjacent to them are not, so one of them
9 is solid. I think the piling goes to bedrock.

10 MR. REYNOLDS: Well, it does go down
11 into something. It doesn't go in the bedrock. It
12 goes into a clay substance, and --

13 MR. SIEBER: Something that's more solid
14 than the piles.

15 MR. REYNOLDS: Yes.

16 MR. SIEBER: Well, the question has to
17 do with the settlement of structures. You know, the
18 ones on the piling aren't going to settle as much as
19 the ones that aren't on pilings, and so are
20 differential settlement and pipe stress and things
21 like that part of your aging management in these
22 structures?

23 MR. REYNOLDS: Yes. It's part of our
24 structural monitoring program. It's one of the
25 categories that we look at, differential settlement.

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1 However, in this particular case, the containment
2 variables, the type of freight tower, fuel handling,
3 all these are all on piles. The turbine building.
4 So all the others are on piles. Some of the
5 external structures are not on piles.

6 MR. SIEBER: For example, water
7 treatment and things like that, where you don't have
8 a lot of big-time commitment.

9 MR. REYNOLDS: Water treatment is
10 actually part of the turbine building so it would
11 be.

12 MR. SIEBER: Okay. That answers my
13 question. Thank you.

14 MR. MITRA: Elimination of Containment
15 Penetration Coolers. Applicant analyzed and found
16 that concrete temperature around the containment
17 penetration will remain below 200 degrees
18 Fahrenheit. The applicant withdrew the TLAA and
19 response of Confirmatory Item 4.6.3-1 will address
20 the issue of how the analysis was done and why it
21 will be always less than 200 degrees Fahrenheit.

22 CHAIRMAN LEITCH: I don't understand the
23 sense of this. It's a question of understanding.
24 At some point in time, they add containment
25 penetration coolers and have eliminated those, taken

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1 those out of service?

2 MR. MITRA: Right. Dealing with the
3 license renewal application as a TLAA, then they
4 analyzed that the containment will never be over 200
5 degrees Fahrenheit, so they withdraw that TLAA.

6 MR. ROSEN: This is a normal operating
7 temperature you're talking about? What is it?

8 MR. MITRA: Yes.

9 MR. REYNOLDS: Bob Reynolds of the
10 applicant. We had -- when we went through and did
11 our analysis, we had one penetration that came
12 through the RHR penetration. When we heat up and
13 cool down during plant transients, the concrete
14 could potentially exceed 200 degrees Fahrenheit, and
15 200 degrees would be the ACI limit. Basically, if
16 you go above that, you could have -- potentially
17 have problems with the concrete, so we looked at
18 that for a while. And after further looking at the
19 interval of time it takes to just heat up, and the
20 cool-down period is like 20 hours, maybe 30 hours
21 during certain intervals. And during that period of
22 time, you're not at that temperature of 350 degrees
23 long enough to ever reach 200 degrees. They found
24 that in the calculation, initial calculation when
25 they eliminated the coolant. It stated that in

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1 there, so we should never reach the 200 degrees.
2 We're not at that temperature long enough to ever go
3 through the pipe, through the insulation, through
4 the sleeve, etc.

5 MR. ROSEN: That's because you initiate
6 RHR cooldown. It's hot, but then it cools off
7 quickly enough to keep the penetration cool.

8 MR. REYNOLDS: That's correct. It's
9 only used for a certain number of hours.

10 MR. ROSEN: And it's only in the very
11 beginning of the usage that the temperature is high.

12 MR. REYNOLDS: That's correct.

13 MR. CLEMENTS: And there's not enough
14 heat transfer here to get the concrete too hot.

15 MR. ROSEN: During the time when that
16 coolant is still hot.

17 MR. REYNOLDS: That's correct. We
18 initially thought that we would, based on the
19 calculations, but we went back and found some more
20 details.

21 MR. MITRA: Section 4.6.4, Aging of
22 Boraflex. Licensee or the applicant submitted an
23 amendment to eliminate the credit of the Boraflex
24 panels from the Robinson Technical Specification all
25 together. Panels are not needed to maintain the

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1 factors for the geometry of the spent fuel rods.
2 Staff is reviewing that amendment application. It's
3 still being reviewed, so we have a commitment and a
4 confirmatory item 4.6.4-1 that addressed that if the
5 amendment is not approved or is delayed beyond
6 November, 2003, applicant will submit an Aging of
7 Boraflex TLAA, and the Boraflex Monitoring Program.
8 And we will address in our safety evaluation report
9 if it's necessary at that time, when we'll issue it
10 the last part of January, the final SER.

11 MR. ROSEN: Is this because the Staff is
12 now granting credit for soluble boron?

13 MR. MITRA: Yes.

14 MR. ROSEN: And, whereas, before they
15 didn't? So now with the granting of the credit for
16 soluble boron, Boraflex panels are no longer needed
17 to contain Keff?

18 MR. MITRA: That's right.

19 DR. BONACA: What happens if you lose
20 circulation of water coolant?

21 MR. CLEMENTS: It's got nothing to do
22 with the shielding relied on by the Boraflex. I
23 mean, the Boraflex has nothing to do with cooling.

24 DR. BONACA: No, I understand. I'm
25 asking about boron precipitation.

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1 MR. SIEBER: No precipitation but you
2 could get a gradient of boron concentration.

3 MR. CLEMENTS: There's two pieces to
4 that. One is, there's also a burn-up requirement on
5 the fuel.

6 MR. MITRA: That's all I have. Any
7 other question?

8 CHAIRMAN LEITCH: I had a general
9 question as I looked through this material regarding
10 security equipment, and whether it's in scope or not
11 in scope. And I was trying to find a common thread
12 here. It looked like some of the stuff was in
13 scope, and some wasn't in scope. And I guess it
14 seemed to me that the justification in most cases
15 was that somehow it was related to fire protection.
16 Is security equipment per se in scope, or is it only
17 in scope as it relates to fire protection?

18 MR. HEATH: I can address that.

19 CHAIRMAN LEITCH: Okay.

20 MR. HEATH: This is Mike Heath. The
21 security system includes security doors in the
22 auxiliary building.

23 MR. ROSEN: You probably ought to come
24 forward.

25 MR. MITRA: Come forward.

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1 MR. HEATH: We brought that in fire
2 protection because security system included the fire
3 doors going into the auxiliary building, so it's
4 within fire protection for those doors, and that's
5 the only part of security we brought in.

6 SPEAKER: And there was also one-time mass light for
7 operators.

8 MR. HEATH: We brought in high mass
9 light. That was brought in because it was --

10 CHAIRMAN LEITCH: And that was something
11 that was fire protection, as well.

12 MR. HEATH: Yes. Fire protection. We
13 used it for lighting post-fire.

14 CHAIRMAN LEITCH: Yes.

15 SPEAKER: And that brought in the security.

16 MR. HEATH: Right.

17 CHAIRMAN LEITCH: But the security
18 building, as such, is not.

19 MR. HEATH: The security building is for
20 the equipment it houses associated with that light.

21 CHAIRMAN LEITCH: Okay.

22 MR. HEATH: That light brought in a lot
23 of stuff.

24 CHAIRMAN LEITCH: Okay. I understand.

25 Well, do any of the Committee Members have any

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1 comments/questions at this point?

2 MR. SIEBER: I guess as a comment, I
3 found the application of the SER easier than
4 previous ones to review. I think the Staff and the
5 applicant both did a pretty good job.

6 MR. BARTON: I would second that. This
7 was the easiest so far.

8 MR. ROSEN: When we get to Farley, we'll
9 have no RAIs to read.

10 MR. BARTON: That will be a piece of
11 cake.

12 MR. SIEBER: One slide for the program.

13 DR. CHANG: Do you have a target that's
14 useful?(Laughter.)

15 MR. ROSEN: Do you see how many air
16 molecules there are.

17 MR.SIEBER: Yeah, you count.

18 DR. BONACA: I thought, too, that it was
19 an easier application to review, and in part it's
20 because we are more familiar with GALL. And the
21 other thing I find is the more and more we find
22 applications that are consistent with GALL, I tend
23 to look at the operating experience for the plant.
24 We can look at were there any major problems in the
25 plant, were there any repairs that would require

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1 unique aging management programs. And so I think
2 that we're going in the right direction, getting
3 more focused on plant-specific and less on the
4 generic because of GALL.

5 I still am concerned about, you know, all the
6 inspection that you're doing verifies the statement
7 of the applicant that they are consistent with GALL
8 is true. But at some point, there's going to be
9 other inspections to be done before we get to the
10 30th year to do verification of implementation. And
11 here today, we see more and more of those
12 commitments now, to commit to do whatever we will
13 come up with, with the Westinghouse program, and
14 with the EPRI program, and so on and so forth.
15 That's going to be a lot of work to be done by the
16 Staff to do that kind of verification.

17 DR. KUO: That is true, Dr. Bonaca. And
18 as we said before, this commitment list is part of
19 our inspection procedure.

20 DR. BONACA: Sure. I understand.

21 DR. KUO: And, you know, we are trying
22 to make sure that this is not going to get lost in
23 the next 10 to 20 years. That's the biggest concern
24 we have had so far.

25 MR. ROSEN: What we talked about, PT, in

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1 the past was this bow wave of commitments, not just
2 at Robinson, but at all the plants, all roughly
3 contemporary, each plant knowing exactly what to do
4 and having a good program to do it, but the Staff
5 having to verify the implementation of those
6 commitments effectively across the whole industry at
7 once.

8 MR. SIEBER: Different commitments.
9 Well, it won't be at once.

10 MR. ROSEN: Well, pretty close together.

11 DR. KUO: Yes.

12 MR. ROSEN: It'll be pretty close
13 together, when all the plants came on line in a
14 given period of time, and so the challenge is not
15 going to be for the individual licensee so much,
16 it's the Inspection Branch and the Staff. We made
17 that comment to the Commission and to you.

18 DR. KUO: Yeah.

19 MR. ROSEN: And I know that some day
20 you'll have a war room with all of these plants on
21 it, and all their commitments, and you're sitting
22 there saying what should we do now? I hope not. I
23 hope you'll --

24 DR. KUO: Yes, we'll start doing that.
25 We have informed the management that, you know,

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1 later on by the time that we have to inspect all
2 this commitments, either we have the resources for
3 the Inspection Branch, or we have the resources for
4 the region.

5 DR. BONACA: I think it's also big
6 challenge for the licensee. I would like to hear
7 from the licensee, because you have, in addition to
8 all these things which are in scope, you also have
9 those other items which are not in scope. And you
10 don't want to have the plant, you know, run in the
11 ground because you have -- for example, the
12 pressurizer spray head, I mean, is not in scope.
13 And, certainly, you don't want it to break and have
14 pieces up there, and so on and so forth. So it's
15 going to be a real challenge.

16 MR. SIEBER: You'll never know until you
17 can't depressurize it.

18 DR. BONACA: What?

19 MR. SIEBER: You'll never know until you
20 can't depressurize.

21 MR. BARTON: Until the operators tell
22 you something is wrong --

23 MR. SIEBER: Hey, this isn't working
24 right.

25 DR. BONACA: I'm being serious. I think

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1 it's a big challenge, because this only defines a
2 certain set of components, but you have a much
3 broader set of components you have to worry about.
4 And it's going to be a challenge for the whole
5 industry.

6 MR. SIEBER: Well, I was always curious.
7 This is -- I don't want an answer because it's no
8 business of our's, but how many FTEs go into doing
9 one of these reviews. There's a lot of reviewers
10 and you can tell there's a lot of work. And then
11 compare that to how many FTEs you think it's going
12 to take to do the inspections, because I think that
13 we're going to do a lot of review and approval
14 first, and then the next 20 years, it'll be like the
15 inspections in order to verify. And my guess is the
16 inspections will take more FTEs than the review
17 does.

18 DR. KUO: We hope it doesn't.

19 MR. SIEBER: It's far easier to read and
20 write than it is to cramp and crawl, looking.

21 MR. ROSEN: Well, you're also talking
22 about a perfect world in which nothing new turns up.
23 And I don't live in that world.

24 MR. SIEBER: Yes, I can understand.

25 MR. ROSEN: It seems like every -- you

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1 live in an imperfect world. We tend to have new
2 challenges. And older plants tend to have more new
3 challenges, perhaps, maybe. We'll see. We'll see
4 how that turns out.

5 MR. BARTON: Then when you increase
6 power by 20 percent, you induce a whole new set of
7 challenges.

8 MR. ROSEN: Older plants operating at
9 higher power.

10 MR. BARTON: Yes.

11 MR. SIEBER: Well, strangely enough, a
12 plant like this, though, has a fair amount of
13 margin, other than steam generators, which to my way
14 of thinking in a 3-loop plant do not have a lot of
15 surplus. And that's why they don't have very high
16 output. But generally, speaking T-hot is lower so
17 you don't have the stress on materials and the flows
18 are low, and so my guess would be that if the plant
19 was well maintained, it would perform well.

20 DR. KUO: Just to give you a preview, as
21 a preview, that we are going to receive three unique
22 plants. The first one on my list is Browns Ferry.
23 They are coming in - their application will come in
24 December. This will be three units.

25 MR. SIEBER: All three units?

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1 DR. KUO: All three units.

2 MR. SIEBER: How about the one -- they
3 don't even know what the one --

4 DR. KUO: They are doing the restart
5 work right now.

6 MR. SIEBER: Yes, I know, but I doubt
7 that they would, when they refurbish that plant,
8 that they would make it like it was in 1980.

9 DR. KUO: Their commitment is to make it
10 the same as the Units 2 and 3.

11 MR. ROSEN: They'll have to go out and
12 buy all that old stuff.

13 DR. KUO: They're going to spend about
14 \$2 billion.

15 MR. ROSEN: Yes. And try to find all
16 the old vendors for all that old stuff.

17 MR. SIEBER: They'll have to dig them up.

18 MR. ROSEN: This will be interesting to
19 see.

20 DR. KUO: Yes. That will be a challenge
21 for us, I'm sure.

22 CHAIRMAN LEITCH: I think we owe the
23 applicant and the Staff some guidance as to those
24 things that we'd like to hear at the full committee
25 meeting.

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1 MR. SIEBER: Yes.

2 CHAIRMAN LEITCH: Perhaps, the emphasis
3 on certain points that were made here. Perhaps
4 there are other issues. Would any of the Committee
5 like to speak to that?

6 DR. BONACA: Well, just one observation,
7 a point I made before, is that, you know, personally
8 as I move from plant to plant, I believe we need to
9 focus more on the unique differences of the plant's
10 operating history. And go into, you know, areas
11 like containment buckling in the liner. These
12 areas we should look at. And maybe it would be
13 worthwhile to have a brief synopsis by the applicant
14 of some of the operating history. I mean just, you
15 know, the relevant issues, that they have shown a
16 plan on how to deal with some of the unique things.

17 CHAIRMAN LEITCH: Major equipment
18 replacement, major repairs.

19 DR. BONACA: That's right. Things that
20 would affect the way to look at some components in
21 license renewal.

22 DR. CHANG: Dr. Bonaca, maybe I can say
23 something. When we go out to -- Ken Chang, doing a
24 few audits before. When we go out to audit AMPs for
25 containment review, we spent an awful lot of time in

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1 looking to the operating experience, how they
2 address operating experience of the plant, as well
3 as how the operating experience of the other plants
4 in the industry affects your thinking when you are
5 looking into your plant.

6 DR. BONACA: So we would like to hear
7 from you, too.

8 DR. CHANG: We've started to, but it will
9 be increased.

10 DR. BONACA: Because, again, I mean as
11 we go forward, where there is compliance with GALL
12 and there is no history that says otherwise, we're
13 not going to look any more that thoroughly because
14 we are familiar with those commitments.

15 CHAIRMAN LEITCH: Anyone else?

16 MR. BARTON: I don't know if you want to
17 make sure the Committee hears what's going on in the
18 Boric Acid Inspection Program here. You know, this
19 is shortly after Davis-Besse. That might come up,
20 what is their program going to be like. So that may
21 be something the Committee wants to hear.

22 CHAIRMAN LEITCH: And we also heard that
23 the Boric Acid Inspection Program had not been tied
24 tightly to plant procedures as recent inspections
25 shows that it was, and maybe we can hear more about

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1 that since this is such a hot topic right now. And
2 I think we'd like to hear -- I, for one, would like
3 to hear the closure of this issue, the slide that's
4 on the board right at the moment. And I'd also be
5 curious - I don't know that it's directly related to
6 license renewal, but I'd like to hear the
7 disposition of this relief request for relaxation of
8 the order for head inspection. I'd just like to
9 know the disposition. It's in the current license
10 basis. It's not license renewal really. I mean,
11 they'll have a new head long before that.

12 DR. KUO: Okay.

13 MR. SIEBER: I don't know that they know
14 they have a disposition.

15 CHAIRMAN LEITCH: No, they don't. But
16 what I'm saying is when we get to the full committee
17 meeting two or three months from now, they may know
18 that. If they know it, I'd like to hear it.

19 MR. ROSEN: I have one thought about --
20 this is really, of course, not part of license
21 renewal either, but what are the plant's plans for
22 power uprate? Is that something that is known or
23 that can be talked about, or is it -- should we just
24 assume --

25 MR. SIEBER: Here at this plant? Other

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1 than some --

2 MR. STEWART: We did a power uprate from
3 the time we submitted -- we did that after we
4 submitted, and there's no major power uprates that
5 I'm aware of on the books for planning right now.

6 MR. SIEBER: You would have to change
7 steam generators.

8 MR. STEWART: Roughly 5 percent power
9 uprate in the 80s.

10 MR. SIEBER: That was a stretch point.

11 MR. STEWART: We stretched, and you're
12 right. With the steam generators and stuff we have,
13 there's -- we have no projects on the books right
14 now.

15 MR. SIEBER: Well, your steam generators
16 are in pretty decent shape. Unless you really need
17 the power, it wouldn't be worth the money.

18 CHAIRMAN LEITCH: I think one of the
19 things, too, I'm always interested in when we get to
20 the Full Committee Meeting is just how you're going
21 to track these commitments. In other words, you
22 touched on it today, but I'd like to hear a little
23 more about it. I mean, when the license renewal
24 group goes away, who owns this program? You talked
25 -- if I remember the numbers, some of these programs

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1 were going to be implemented within what you called
2 the short period. But there are perhaps 30 of them
3 or 25 of them that are not going to be implemented
4 in the short period. Just some plans. I mean, we
5 recognize that you don't have to do it until the end
6 of the current period, but we'd just like to know
7 what your thinking is, what your plans are, how is
8 this going to be implemented? How are these
9 commitments going to be tracked internally in your
10 organization. Because you guys, the plant renewal,
11 license renewal team are going to go away or move on
12 to big and better things. But somebody is going to
13 have to continue this. So I think at the full
14 committee meeting we'd like to just hear a little
15 more about that topic. I mean, you touched on it
16 today, but it's just a matter of re-emphasis.
17 Anything else?

18 Well, I think we can declare success at
19 maintaining the schedule. We did have to squeeze a
20 couple of people there a little bit, and we
21 apologize for that, but we were able to come in on
22 schedule. I want to thank the applicant and the
23 Staff.

24 As the other members have mentioned, I
25 think the presentations were excellent, and I think

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1 the application was well-prepared and easy to
2 review, to the credit of everyone that was involved
3 with the process. So thanks very much, and we stand
4 adjourned. Thank you.

5 (Whereupon, the proceedings in the
6 above-entitled matter went off the record at 4:03
7 p.m.)

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