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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 + + + + +
4 ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
5 (ACRS)
6 PLANT LICENSE RENEWAL SUBCOMMITTEE

7 + + + + +

8 MEETING

9 + + + + +

10 WEDNESDAY

11 MARCH 28, 2001

12 + + + + +

13 ROCKVILLE, MARYLAND

14 + + + + +

15 The Subcommittee met at the Nuclear
16 Regulatory Commission, Two White Flint North, Room
17 T2B3, 11545 Rockville Pike, at 8:30 a.m., Dr. Mario
18 Bonaca, presiding.

19 Plant License Renewal Subcommittee Members Present:

20 MARIO V. BONACA, Chairman

21 F. PETER FORD

22 THOMAS S. KRESS

23 GRAHAM M. LEITCH

24 WILLIAM J. SHACK

25 ROBERT E. UHRIG

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1 ACR Consultant Present:

2 JOHN BARTON

3 ACRS Staff Present:

4 SAM DURAISWAMY

5 ROBERT ELLIOTT

6 Also Present:

7 RAJ ANAND

8 HANS ASHAR

9 RAJ AULUCK

10 RAY BAKER

11 WILLIAM (BUTCH) BURTON

12 JOSE CALVO

13 GENE CARPENTER

14 JAMES DAVIS

15 ROBIN DYLE

16 BARRY ELLIOT

17 WILLIAM P. EVANS

18 JOHN FAIR

19 GEORGE GEORGIEVE

20 DAVE GERBER

21 CHRIS GRIMES

22 MARK HARTZMAN

23 DAVID JENG

24 MEENA KHANNA

25 W. KOO

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1 Also Present: (cont.)
2 MARGIE KOTZALAS
3 P.T. KUO
4 CAROLYN LAURON
5 CHANG-YANG LI
6 Y.C. (RENEE) LI
7 WAYNE LUNCEFORD
8 KAMAL MANOLY
9 KENNETH McCracken
10 DONALD P. MOORE
11 JEFF MULVEHILL
12 KEITH NICHMAN
13 K. PARCZEWSKI
14 ERACH PATEL
15 CHARLES PIERCE
16 FRED POLASKI
17 JAI RAJAN
18 JANAK H. RAVAL
19 PAUL SHEMANSKI
20 JOHN STEVENSON
21 KATHRYN SUTTON
22 DAVID TERAQ
23 BRIAN THOMAS
24 HAROLD WALKER
25 DOUG WALTERS

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

(8:30 a.m.)

DR. BONACA: Good morning. The meeting will now come to order. This is the meeting of the ACRS Subcommittee on Plant License Renewal. I am Mario Bonaca, Chairman of the Subcommittee. ACRS Members in attendance are Peter Ford, Thomas Kress, Graham Leitch, William Shack and Robert Uhrig. We also have John Barton attending as a consultant.

The purpose of this meeting is to review the Southern Nuclear Operating Company's application concerning the license renewal for Edwin I. Hatch Nuclear Plants 1 and 2 and the associated NRC staff Safety Evaluation Report.

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

This meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Mr. Sam Duraiswamy is the cognizant ACRS staff for this meeting. Mr. Robert Elliott who is on rotational assignment to the ACRS staff from NRR is also present.

The rules for participation in today's

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1 meeting have been announced as part of the notice of
2 this meeting previously published in the Federal
3 Register on March 8, 2001. A transcript of this
4 meeting is being kept. It will be made available as
5 stated in the Federal Register notice.

6 It is requested that speakers first
7 identify themselves and speak with sufficient clarity
8 and volume so that they can be readily heard.

9 We have received notice of comments and
10 request for time to make oral statements from members
11 of the public.

12 We will now proceed with the meeting and
13 I call upon Christopher Grimes of NRR to begin.

14 MR. GRIMES: Thank you, Dr. Bonaca. My
15 name is Chris Grimes. I'm the Chief, License Renewal
16 and Standardization Branch and we've organized the
17 presentation today to discuss the staff's Safety
18 Evaluation Report for the Hatch License Renewal
19 Application with an emphasis on identifying in the
20 Safety Evaluation Report some of the uniquenesses of
21 the first BWR review.

22 We're going to start off with an overview
23 by the Project Manager, Butch Burton and then Southern
24 Company is going to provide a presentation on the
25 application. And then we'll get into the specifics of

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1 the safety evaluation.

2 The staff's presentation will identify
3 where there are open items and we would appreciate the
4 ACRS views on the open items, but I want to stress
5 that beginning tomorrow, we're going to have the first
6 of what I consider to be a series of meetings in which
7 Southern Company is going to appeal staff positions on
8 these issues and we're going to work that process to
9 develop final staff positions and the resolution of
10 the open items.

11 And with that, I'll turn the meeting over
12 to Butch Burton.

13 MR. BURTON: Can everybody hear me okay?
14 I'm going to be using the mobile mike here.

15 As Chris said, my name is William Burton,
16 but as you probably -- Chris probably clued you in I
17 prefer to go by Butch.

18 I am the Project Manager for the Hatch
19 License Renewal Application Review. Let me get this
20 mike situated here.

21 I'll start with a little bit of background
22 here. I'll go through this briefly.

23 We've had the application in-house with
24 the staff for a little over a year. It was actually
25 submitted by application by a letter dated February

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1 29th. As you, I'm sure, most of you know, this is a
2 Boiling Water Reactor, the first to come in for
3 license renewal. It is a BWR/4 design, and two units.

4 The plant is located on the Altamaha
5 River. I hope I pronounced that right, in Appling
6 County, Georgia. It's about 11 miles north of Baxley
7 and I believe, as the crow flies, it's probably about
8 70 miles from Savannah, Georgia.

9 Unit 1, the current license is due to
10 expire in 2014 and they have asked for an extension of
11 that additional 20 years to 2034. Likewise, Unit 2 is
12 currently scheduled to end its license in 2018 and
13 they're looking to extend it to 2038.

14 One thing that I did want to do, this is
15 not in your package, but I did want you to see the
16 review schedule very briefly so you can see where we
17 are.

18 March 16th, we completed the second of the
19 three scheduled inspections, the V inspection where
20 primarily the inspection team went to the site to
21 confirm that some of the commitments that are
22 currently in the Aging Management Programs are
23 properly being implemented at the site. And as a
24 result of that inspection we have pretty good
25 confidence that they are identifying their commitments

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1 as identified in the Aging Management Programs and
2 properly implementing them on site.

3 Right now, all of the changes that they
4 have to make to the current procedures are pretty much
5 in draft or proposed form, but they are u them.

6 It was my understanding that one of the
7 committee's main interests was to compare the Hatch
8 Plant being the first BWR with some of the previous
9 applicants, in particular, to see if there was
10 anything materially different between what we're
11 seeing at Hatch and what we have seen at some of the
12 other plants.

13 And having taken a step back and taken a
14 look at that, we really do not see any new technical
15 issues. As Mr. Baker from Southern Nuclear will go
16 into detail in a few minutes, Hatch took a commodity
17 approach to their evaluation and as such, what we do
18 is -- what they did was they identified materials of
19 construction, the environments that those materials
20 operate in, and then identify any applicable aging
21 effects.

22 And in fact, what we found is that there
23 are no unique materials, there are no unique
24 environments, and so we do not have any new or unique
25 aging effects. So in that respect, which is the

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1 primary technical issue, we really don't see any
2 difference between Plant Hatch as the first BWR and
3 any of the previous applicants who are all PWRs.

4 Most of the differences that I'll talk
5 about between Plant Hatch and some of the previous
6 applicants is really, it's really a matter of process
7 and formatting and that's primarily what you see with
8 the remaining bullets. It is the first to use the
9 Boiling Water Reactor Vessel and Internals Project
10 Reports.

11 Now my plan today was not to go into a
12 whole lot of detail about that since you all covered
13 it pretty well yesterday. So what we'll do is as we
14 talk about it, the appropriate points, we'll point out
15 where BWRVIP reports were applied in the review.

16 Plant Hatch was the first to use the
17 functional approach versus the system approach in the
18 scoping process. I was going to go into a fair amount
19 of detail about this, but Mr. Baker is actually going
20 to be coming up after me and he's going to go into
21 substantial detail on the scoping and screening
22 process. So if you don't mind, I'll hold off on that.

23 Then finally, they were the first to apply
24 the Aging Management Program attributes to demonstrate
25 adequacy of aging management as opposed to the Aging

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1 Management Programs themselves. I do have another
2 supplemental graph here, vu-graph here to show you
3 what I mean by that. Again, this is not in your
4 package and I know it's hard to read, so I'll try and
5 explain.

6 What Southern Nuclear did was they took
7 the 10 attributes that we're all familiar with and
8 what we're used to seeing is having those 10
9 attributes applied to each Aging Management Program.
10 And they took a unique approach which actually the
11 staff found good. And what they did was they took the
12 10 attributes and at this point in addition to
13 applying them to each Aging Management Program, they
14 actually looked at, for instance in this case, they
15 created what are called Aging Management Program
16 Assessment Tables.

17 This particular one I have up here is for
18 copper and alloys within a river water environment.
19 That's the commodity group and the specific aging
20 effect is flow blockage due to aging mechanism
21 fouling. And what they did was they said, for
22 instance, the scope, how do we ensure that we capture
23 everything that we need to capture for this? And they
24 say here are the Aging Management Programs that do
25 that.

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1 And what they did was they actually went
2 through each of the attributes and actually showed
3 programmatically how they captured that. And that was
4 unique and the staff found that really very helpful in
5 our review. That was another unique aspect.

6 MR. LEITCH: Butch, I notice that there
7 seem to me, at least, to be an unusually large number
8 of RAIs associated with this. Would you say that some
9 of these four differences that you've just listed are
10 primarily what caused this large number of RAIs?

11 MR. BURTON: It was --

12 MR. LEITCH: First of all, was there an
13 unusually large number of RAIs?

14 MR. BURTON: It was hard to judge. We
15 didn't go in to the review, because it was the first
16 BWR. We didn't go in with any preconceived notions of
17 how many RAIs would be appropriate.

18 Obviously, we saw with the PWRs, because
19 we had some familiarity with them, we expected the RAI
20 account to drop which we pretty much saw.

21 If you compare the number of RAIs for
22 Plant Hatch, we had more.

23 DR. BONACA: It seems to me on the same
24 issue that many of them are tied to the ficklety on
25 the part of the staff to ascertain if certain

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1 components were or were not part of the license. In
2 fact, in many cases it was more of a question of why
3 is the component not in and then the answer was yes or
4 no. I mean in many cases the component was ins the
5 scope. So there was an issue with the ficklety of
6 checking scoping?

7 MR. BURTON: Yes. I'd say the majority of
8 the RAIs fell into two groups, one was as Dr. Bonaca
9 mentioned because of the unique approach and the
10 formatting of the application, there were a number of
11 RAIs that were -- had to do with clarifications of
12 things. In the beginning, the staff had a little bit
13 of trouble understanding how to navigate through the
14 application. And we had a number of RAIs that were
15 related to that.

16 The second thing and what accounted for
17 approximately one third of the total RAIs and there
18 were some 400 and some odd RAIs, I can't remember the
19 exact count, 428. Approximately, one third of those
20 had to do with -- I put up the vu-graph before of the
21 assessment table and how they applied the 10
22 attributes.

23 As I said, our guidance applies to 10
24 attributes to each Aging Management Program. In the
25 initial submittal of the application, as I mentioned

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1 before, the 10 attributes were actually applied to a
2 demonstration of adequate aging management. So what
3 happened was we had a lot of RAIs that came in very
4 repetitive for each Aging Management Program to say
5 what is the scope, what are the parameters being
6 monitored, what is the monitoring and trending?
7 Because initially, we didn't see that clearly in the
8 Aging Management Program descriptions. So what you'll
9 find if you go over the RAIs, you'll see, as I said,
10 fully one third of them very repetitive in asking
11 those kinds of questions.

12 Had we not asked those questions, and if
13 we had not had the trouble with the navigational
14 problems, the RAIs probably would have been in line
15 with the previous applications.

16 MR. GRIMES: This is Chris Grimes. I
17 would like to on a very gross basis compare the
18 questions on Hatch with the Calvert Cliffs and Oconee.
19 Calvert Cliffs and Oconee were in the range of 430 to
20 450. And as Butch pointed out, by virtue of the
21 packaging technique, we did end up with a lot of
22 duplicative questions on Hatch.

23 And if you account for those, I'd say we
24 were on about the same level as we were on Arkansas
25 and we did -- I did feel as I looked through the

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1 feedback that we got from the applicants on the nature
2 of the questions that there is evidence the process
3 improved and that we're learning and to the extent
4 that we learned some lessons in terms of communication
5 techniques, those were fed back into the Improved
6 Renewal Guidance for future applicants.

7 So on a very gross basis, I'd say that I'm
8 very comfortable that the level of questions for Hatch
9 were not out of line for the first BWR.

10 MR. LEITCH: Thank you.

11 MR. BURTON: Now in terms of the
12 comparison to some of the previous applications, those
13 are really the major differences, primarily process.
14 But in terms of technical differences, we really did
15 not see much because as I said, they used the same
16 materials. They generally operate in the same
17 environments and so therefore we have the same aging
18 effects. So we really did not see much technically
19 different.

20 That's pretty much it for my overview. I
21 wanted to answer any questions, any comments you may
22 have and then after that, I'll turn it over to Mr.
23 Baker from Southern Nuclear.

24 Questions? Comments? Okay, I'll turn it
25 over to Ray.

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1 MR. BAKER: Good morning. Charles Pierce,
2 who is the manager of the License Renewal Section at
3 Southern Nuclear is going to do the background and
4 introduction for our part of the presentation.

5 MR. PIERCE: I just wanted to start by
6 saying it is a pleasure to be here this morning before
7 the ACRS Subcommittee and Ray and I are going to spend
8 probably the next 45 minutes or so discussing our
9 license renewal application with you. I'm just going
10 to start with more or less the background and Ray's
11 going to get into some of the details.

12 For my part, I just wanted to open it up
13 by saying that I think Ray will mention and I just
14 wanted to mention for my purposes that I've been in
15 nuclear power for about 20 years. I started with some
16 that probably the ACRS is very familiar. I started my
17 career in environmental qualification and moved on to
18 a number of other areas and now I'm in license
19 renewal. So I began license renewal activities back
20 in 1991-1992 time frame with the first rule, and so
21 I've been working in license renewal ever since.

22 Southern Nuclear has also put a lot of
23 resources into the license renewal through the years
24 as well. We've put a lot of time and effort into
25 developing the revised rule and Southern Nuclear

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1 actually participated in the license renewal
2 demonstration project with the NRC in 1996.

3 Next slide.

4 (Slide change.)

5 MR. BAKER: I'm not going to go into any
6 details on this next slide. I think Butch covered an
7 overview of the Hatch information and background
8 adequately. I'll just mention that I've always liked
9 this picture with the rainbow overhead. I think
10 that's a nice touch.

11 MR. BARTON: Is there a pot of gold at the
12 end of it?

13 (Laughter.)

14 MR. PIERCE: The renewal, right. Next
15 slide.

16 (Slide change.)

17 MR. PIERCE: With regard to some of the
18 things that I just wanted to touch on here, Hatch was
19 the first utility to effectively file an
20 electronically formatted application and drawings. I
21 think the NRC found that very useful. The application
22 and drawings were hyperlinked for ease of use. We
23 also -- as we heard earlier, worked to develop an
24 alternate application format and we filed that format
25 using an early version of the standard application

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1 format.

2 The reason I mention that is because that
3 standard application format effectively was developed
4 between the NRC and industry in the last few months in
5 the development of our application. We had to do a
6 significant rewrite, but we felt it was important to
7 do so. I think it benefitted both sides, the NRC and
8 us, to go through that process.

9 We did follow in great detail the
10 development of the BG&E and Duke processes as they
11 went through their activities. We actually had either
12 directly attended almost every BG&E and Duke meeting
13 here at the NRC or had contractors attend on our
14 behalf and write detailed meeting minutes for us. We
15 followed their letters and docket interactions and we
16 incorporated those activities into our application as
17 we felt appropriate.

18 Finally, in the 1999, late 1999 time
19 frame, as the application was nearing completion, we
20 brought together a group of what I call key industry
21 experts to perform a peer review of our application.
22 We actually brought with our internal resources and
23 the industry experts, the review staff amounted to
24 about 30 individuals, 25 and 30 individuals.

25 MR. BARTON: Who are these industry

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1 experts?

2 MR. PIERCE: People like Bob Nickell who
3 is the ASME president. I don't know if you know Bill
4 Denny, electrical -- he's the individual that worked
5 at Ogden that helped develop the spaces approach in
6 the early stages with -- that we applied. I think
7 everybody knows Jack Roe. He used to work here at the
8 NRC. There were some structural integrity folks as
9 well that supported us at that meeting. So there were
10 several people of that stature there, along with some
11 individuals from individual utilities like PECO and so
12 forth that actually reviewed our application.

13 And basically the review went along
14 procedural and legal lines, mechanical, structural and
15 electrical. We basically had those four areas that
16 were looked at. We divided the group up, people up
17 into different groups and actually had them look at
18 the information in that light. So we broke the
19 application down in four different areas for their
20 review. And we incorporated the comments from that
21 peer review as well.

22 So that is the background that I really
23 wanted to go through here and now I'm going to turn it
24 over to Ray and let him continue with some of the
25 discussion, detailed discussion on our application.

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1 DR. BONACA: At some point I would be
2 interested in hearing something about this functional
3 approach rather than the system approach because it's
4 unique for use, at least. This is the first time we
5 see that.

6 MR. BAKER: I'll try to address that.

7 DR. BONACA: To understand why you took
8 that direction rather than the approach taken by the
9 other applicants today. It would be interesting.

10 MR. BAKER: All right. Good. Thank you,
11 Charles.

12 As I go through the presentation this
13 morning, please feel free to interrupt and ask the
14 questions as they occur and we'll endeavor to answer
15 them to the extent that we have that knowledge here
16 today.

17 My name is Ray Baker and let me say that
18 I appreciate the opportunity to speak to you today on
19 behalf of Plant Hatch. I'd also like to thank the NRC
20 staff for the hard work, for the professional and
21 thorough review that's gone on to this point. The
22 fact that all the milestone dates have been met to
23 this point indicates a significant effort on their
24 part and getting the application to this point in the
25 review process.

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1 I first saw Plant Hatch as a brand new
2 junior engineer right out of college in 1972. At that
3 time, Unit 1 was pretty much structurally complete.
4 Unit 2 was coming out of the ground. So I've been
5 involved with Hatch for a very long time. My entire
6 career of almost 30 years at Georgia Power and now
7 Southern Nuclear has been associated with Hatch. It
8 pleases me that at this point I'm able to be involved
9 in the re-licensing activities for the plant that I
10 participated in the original licensing activities on
11 some 30 years ago.

12 As Chuck noted in his comments we began
13 discussions with the NRC License Renewal Branch
14 regarding a suitable application format, actually
15 fairly early in the review cycle of the Calvert Cliffs
16 and Oconee applications and we -- and I believe along
17 with the NRC staff were interested in finding ways to
18 improve on the review process and we were encouraged
19 to explore different approaches. Chuck mentioned that
20 somewhat in his presentation.

21 About six months, as I recall, prior to
22 the scheduled submittal date for Hatch, we, that is,
23 the industry, NEI and the NRC, began to settle on an
24 early version of what has become known as the standard
25 application format. We agonized over the decision

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1 whether to convert at that stage in the application
2 preparation, but finally we did choose to adapt the
3 application to match the standard format to the extent
4 possible.

5 The principal impact produced by that
6 format conversion was the production of summary table
7 results and Sections 2 and 3.

8 In retrospect I view that as a good
9 decision to format, to change the format. The summary
10 table format is a clear and concise way to present a
11 lot of information so I think that on balance, the
12 format conversion resulted in an improved review and
13 so again, I think it was a good decision.

14 Perhaps the one place where the Hatch
15 application format is most noticeably different from
16 the current standard format is in the presentation of
17 programs. Butch mentioned one aspect of that and we
18 may talk a bit more about that later. But the
19 standard format assumes program descriptions will be
20 provided in Appendix B. The Hatch application that we
21 provided originally placed those program descriptions
22 in Appendix A which is generally called the FSAR
23 supplement.

24 There was also additional significant
25 information on how those various program elements fit

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1 together to demonstrate adequate aging management for
2 each commodity group in our Appendix C. The level of
3 detail that you find by combining those two areas is
4 really not significantly different from the level of
5 detail you would expect in Appendix B. They were just
6 in several places. So early in the review, we
7 concluded based on feedback from the NRC that in order
8 to facilitate that review, a stand-alone Appendix B
9 would be useful and we provided that supplemental
10 document as part of our responses to the early round
11 of RAIs that came in.

12 (Slide change.)

13 MR. BAKER: As you can see from this
14 vu-graph, the organization of the application does
15 follow familiar lines. Section 1 provides the general
16 information that's specified pursuant to 10 CFR
17 54.19(a) and (b).

18 Section 2 describes and justifies the
19 scoping and screening methodology and the results,
20 pursuant to 10 CFR 54.21(a)(1) and (2) and again,
21 that's in a tabular format.

22 Section 3 describes the process we use to
23 merge component groups into commodities. And in
24 addition, although not required by the regulation,
25 it's useful and so we placed it here, a description of

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1 the Aging Management Review process that we employed.
2 Finally, Section 3 includes also in a tabular format
3 the summary results of the Aging Management Reviews.

4 Section 4 presents the time-limited aging
5 analyses and exemptions.

6 Appendix A describes the programs and
7 activities for managing aging. It also contains a
8 summary description of the Time-Limited Aging Analyses
9 and these items are as specified in the rule.

10 Where Section 3 presents a tabular summary
11 of the aging management results, Appendix C provides
12 the meat of the application from our perspective. The
13 appendix is divided into two sections. The first
14 section systematically discusses combinations of
15 fabrication, materials and external and internal
16 environments as Butch mentioned. This generic
17 presentation identifies aging effects requiring
18 management for each combination of materials and
19 environment. I will discuss that in more detail later
20 in the presentation.

21 The second part of Appendix C presents
22 more detailed summaries of the Hatch specific Aging
23 Management Reviews so the first part of Appendix C is
24 a generic evaluation of materials and environments and
25 the second part of Appendix C is on a commodity by

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1 commodity basis, a more specific Aging Management
2 Review and again, this is grouped by materials of
3 fabrication and environments for component groups that
4 we call commodities. And I will describe the process
5 for grouping those components in a few moments when I
6 get to vu-graph 10.

7 These detailed summaries in Appendix C
8 provide the linkage of programs and activities to
9 aging effects associated with the commodities and in
10 that way demonstrating adequate aging management for
11 each commodity group. That is our demonstrations were
12 made in Appendix C.

13 And lastly Appendices D and E contain the
14 environmental report supplement and the technical
15 specifications changes required for their renewal term
16 respectively.

17 MR. LEITCH: Ray, just before you leave
18 the introductory material, I had a question on page
19 1.1-10. It says SNC requests a class 104 operating
20 license for Plant Hatch 1 and a class 103 operating
21 license for Unit 2. I don't understand that
22 terminology nor distinction there. What's the
23 distinction between a Class 104 and 103?

24 MR. BAKER: This is, I believe, ancient
25 history that goes back to the kind of operating

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1 license that was granted in the original term.

2 MR. LEITCH: I see.

3 MR. BURTON: In the very early days, so
4 the Unit 1 license was a Class 104 as I believe you
5 said, and the Unit 2, Class 103.

6 Chuck, did you have more details on that?

7 MR. PIERCE: The Atomic Energy Act, when
8 it was promulgated specified basically two types of
9 licenses. One was called a research -- I forget the
10 complete name. It was a Class 104 license. The other
11 one was a production reactor which was a Class 103
12 license.

13 Actually, if you go back to some of the
14 earlier applications that had recently been approved,
15 they were typically 104 licenses, but Hatch sort of
16 was in that in between time where the plants were now
17 moving to ask-informed receiving 103 licenses, so we
18 have the difference in 103 and 104.

19 MR. LEITCH: I guess then my question is
20 primarily for the NRC. Is that something we want to
21 perpetuate?

22 MR. GRIMES: This is Chris Grimes and I'll
23 attempt to respond to that. As a matter of fact, my
24 recollection is that the original licenses were called
25 Demonstration Power Reactors, DPR licenses.

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1 MR. BAKER: Right.

2 MR. GRIMES: And practically speaking for
3 the purpose of the safety evaluation, there is no
4 difference in the way that the safety evaluation is
5 conducted.

6 As a procedural matter, we've concluded
7 that renewed licenses should maintain the same
8 numbering scheme for simplicity of the way that we
9 manage the licenses. And so you'll find that in the
10 information digest as it lists the historical
11 milestones of each individual plant, their class is
12 104 and 103 and it's legally important in terms of the
13 basis for granting a license and it's nexus to the
14 Atomic Energy Act. But I think for your purpose, you
15 won't see any distinction in the treatment.

16 I do recall that during the conversion of
17 the Plant Hatch to the improved standard tech specs
18 that having two very different licensing bases, I mean
19 Unit 1 was reviewed prior to the Standard Review Plan
20 and Unit 2 was fundamentally standardized and in
21 trying to merge those two licensing bases during the
22 design basis reconstitution efforts and subsequent
23 tech spec conversions, that was uniquely challenging,
24 but I don't think the two different license types will
25 impede you in any way.

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1 MR. LEITCH: Okay, thank you. One other
2 question on the introduction. I noticed there are
3 several owners in addition to Southern Nuclear but I
4 didn't see percentage ownerships. Are they clearly
5 minority owners or what is the percentage of
6 ownership?

7 MR. BAKER: Southern -- Georgia Power
8 Company is the majority owner of Plant Hatch by a few
9 fractions of a percent. A large minority stake is
10 held by Oglethorpe Power Corporation and somewhat
11 smaller percentages by the Municipal Electric
12 Authority of Georgia and the City of Dalton.

13 MR. LEITCH: Okay, thank you. Those
14 percentages are the same for both units?

15 MR. BAKER: I believe for Hatch that is
16 true. It is different ownership percentages between
17 Hatch and Ogle, but the other Georgia Power Company
18 plant, but Plant Hatch is the same for both units.

19 MR. LEITCH: Thank you.

20 MR. PIERCE: The other point I'll mention
21 with that is that the operations authority has
22 invested in Southern Nuclear by Georgia Power Company
23 and the co-owners. So Southern Nuclear has filed this
24 application on their behalf.

25 MR. LEITCH: Thank you.

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(Slide change.)

MR. BAKER: So this is how the application is organized, and now I'd like to discuss the scoping and screening process we used.

We developed a comprehensive list of systems and structures and we identified functions for each system or structure on the list. Each function was evaluated against the eight scoping criteria in 10 CFR 54.4(a)(1), (2) and (3). On this vu-graph we showed that engineering and licensing documents were used in the evaluation of identified functions against the three safety-related criteria of 10 CFR 54.4(a)(1) and also in the evaluation of functions against the criterion of 54.4(a)(2) which is the nonsafety-related that would prevent safety-related functions.

And I would note that with regard to this criterion, all functions were evaluated against this criterion, not just the nonsafety-related functions. We evaluated safety-related functions against the nonsafety-related function criterion as well.

(Slide change.)

MR. BAKER: And in a similar manner, engineering and licensing documentation was used in the identification of functions relied on for

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1 compliance with our Commission regulations specified
2 in 10 CFR 54.4(a)(3). The four regulations that are
3 applicable to Plant Hatch were EQ, ATLAS, station
4 blackout and fire protection. Since Plant Hatch is a
5 BWR, pressurized thermal shock is not included in that
6 Hatch is exempt from that regulation.

7 Three separate reviews were performed as
8 a part of our scoping process. The primary review was
9 a system and structure-specific review. To supplement
10 the system-structure specific review, NRC Safety
11 Evaluation Reports were reviewed to assure all
12 functions relied on for compliance with the four
13 Commission regulations were identified and scoped.
14 And in addition, we called on in-house experts for
15 further assurance that all the functions relied on for
16 compliance with the four regulations were identified
17 and scoped. These separate stand-alone reviews were
18 conducted for additional assurance that the scoping
19 relative to this criterion was complete and
20 comprehensive.

21 (Slide change.)

22 MR. PIERCE: As I noted on the previous
23 vu-graph, we have used engineering and licensing
24 documents to perform the function scoping. The block
25 on the left identifies some of the major document

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1 sources used. Obviously, our Final Safety Analysis
2 Report was used. We also used our Equipment Location
3 Index. We call this the ELI. It's an engineering
4 database of components. It's not a Q-list, but it
5 does provide quality and seismic class information for
6 the components that are listed in that document.

7 DR. BONACA: Did you use also the
8 Q-list?

9 MR. BAKER: There is not a specific
10 Q-list per se at Plant Hatch. This is the equivalent
11 of that.

12 MR. PIERCE: The equivalent Q-list at
13 Plant Hatch is actually, you go back and I think look
14 at some of the earlier letters to the NRC is actually
15 the Safety Evaluation Documents which is listed as
16 well.

17 MR. BAKER: It's the Systems Evaluation
18 Document.

19 MR. BAKER: The reason that we don't
20 solely rely on the Equipment Location Index is that
21 it's not a complete listing of components. For
22 example, pipe segments are not listed in that listing.

23 We used other documents. Chuck mentioned
24 the System Evaluation Document which does, in one of
25 the appendices of it contain the listing of safety-

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1 related components.

2 You asked why function scoping and the
3 Plant Hatch Maintenance Rule Manual was selected as a
4 key document due to similarities between Maintenance
5 Rule Scoping criteria and the License Renewal Scoping
6 criteria. At Plant Hatch Maintenance Rule Scoping was
7 done on a functional basis. The Maintenance Rule
8 Scoping identified a large number of functions and
9 then they scoped those functions based on the criteria
10 applicable under the maintenance rule.

11 We were able to use that as a starting
12 point to have a ready-made source for most of the
13 functions that we identified in the course of our
14 scoping review for license renewal. And we recognized
15 that there are differences in the criteria and one of
16 the things that we did was to assess and reconcile the
17 differences in results obtained by the maintenance
18 rule scoping and our scoping review. For example, the
19 safety-related criteria are almost identical and so
20 we're able to make substantial use of those, but other
21 criteria are just not applicable in license renewal
22 space.

23 So the set of functions that we identified
24 using all of these documents, plus other sources, we
25 did not restrict our reviewers to the set. This was

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1 the beginning set of documents for each person to use
2 as they were doing their scoping evaluations. If
3 their reviews led them into other information sources,
4 we encouraged them to go to those sources to obtain
5 that information.

6 So as a result, each function that was
7 identified was evaluated against the eight scoping
8 criteria as stated on the previous vu-graphs and any
9 function that met one or more of the eight criteria
10 was classified as being in scope.

11 In the language of the rule, these are the
12 functions that are the intended functions.

13 DR. BONACA: I guess where I've been
14 trying to go was how did you assure that by this
15 process you have addressed every safety-related
16 component in the plant? That's the first question of
17 the rule. So now you choose a function and approach,
18 but you certainly want to verify that that is the
19 outcome. That's important because then all the other
20 applicable components are those that support?

21 MR. BAKER: That's correct.

22 DR. BONACA: Essentially those functions.
23 How do you assure that you have the correspondence
24 there and you included all those components?

25 MR. BAKER: As Chuck noted the system

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1 evaluation document listing of the safety-related
2 components was consulted and we made sure that every
3 component in that listing is within at least one or
4 more evaluation boundaries where we did the screening.

5 DR. BONACA: Yes. The reason for me
6 asking these questions, I'll be open with this, is
7 that I have reviewed the application in some detail
8 and I had some trouble at the beginning in
9 understanding what was in scope. For example, I found
10 things like Table 2.2.1, System F-16, fuel storage
11 equipment not in scope. But then I go around and I
12 find F.16.01 storage racks and they are, I believe, in
13 scope.

14 And then there is a statement in a note
15 that says retained for continued purposes. So I
16 didn't understand whether it -- and that was under a
17 different function. I could not trace it. So I was
18 left with some questions in my mind about what does it
19 mean to retain for continued purpose? It is either
20 in scope or it is not in scope, I guess. I'm looking
21 at it simplistically, but --

22 MR. BAKER: You're right.

23 DR. BONACA: And it was a little bit
24 difficult and I guess so you're saying, your
25 circumstances for the plant, whatever, led you not to

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1 use the approach that other system plants were using
2 at the same time which is because all the ones we have
3 seen today, they use the system approach.

4 MR. BAKER: They used the system approach
5 and I think everybody is familiar with that approach
6 and comfortable with that approach.

7 DR. BONACA: Yes.

8 MR. BAKER: And as Butch mentioned during
9 the review process early on, I believe that did lead
10 to some difficulty in getting the reviews started. In
11 retrospect, that's an area that is a little more
12 complicated perhaps than first appeared.

13 One of the things that we did do though is
14 to generate the evaluation boundary drawings and try
15 to provide those as an adjunct to the application so
16 that if there was a question about a particular
17 component, those drawings could be consulted to say is
18 it within an evaluation boundary or is it not. And on
19 that basis if it shows up outside any evaluation
20 boundary, then the conclusion was that it was not in
21 scope.

22 DR. BONACA: Yes. Now the staff, I
23 understand, we'll hear later, they audited the standby
24 liquid control system, the high-pressure coolant
25 injection system and the service water system and you

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1 found --

2 MR. BURTON: Yes. I was going to talk
3 about that a little bit later. It's part of the
4 scoping inspection, went through some of that.

5 DR. BONACA: Okay, all right.

6 MR. LEITCH: I guess I had a similar
7 navigational problem in my review. Perhaps you could
8 just help me with this. Table 2.2-1, the first two
9 lines on there, A70 and A71, analog transmitter trip
10 system and nuclear steam supply shutoff and then for
11 in scope it says yes for both of those items.

12 And the third one is reactor assembly,
13 B11. So then I went back to 2.3-1 and I find the
14 reactor assembly and then it seemed like all the
15 others I found in this mechanical screening results,
16 but I don't find A70 and A71. I just had a little
17 trouble understanding what happened to this.

18 MR. PIERCE: Okay. And I'd have to --

19 MR. BAKER: Chuck has the application.

20 MR. PIERCE: I have the application in
21 front of me. B11 is mechanical system and as such
22 hit's listed under the mechanical system screening
23 results.

24 A70 and A71 are more directly related to
25 an electrical. You should see those --

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1 MR. BAKER: I would expect that this kind
2 of navigational difficulty is really related to the
3 conversion format effort that we went through to try
4 to put this into a standard format relatively late in
5 the process and I believe that even for us, sometimes
6 we have to look to see what part, whether it was
7 mechanical, electrical or civil, any particular item
8 was placed in because sometimes they are somewhat
9 counterintuitive.

10 MR. LEITCH: In the SER, those first two
11 items are listed under electrical.

12 MR. BAKER: Yes, electrical. Those first
13 two items are electrical, yes.

14 MR. PIERCE: The electrical system because
15 of the implementation of the spaces approach doesn't
16 have the same component discussions in that same
17 section as mechanicals do. That's why you don't see
18 it there.

19 MR. LEITCH: Okay. So these two systems
20 are in scope, but then did they -- how do I find out
21 whether they screened out or not?

22 MR. BAKER: The electrical approach that
23 we used is the same as was used by Ocone and ANO, so
24 most electrical components, of course, are active in
25 screen out and what you're left with is the same set

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1 of the passive long-lived electrical components that
2 the other plants had.

3 MR. LEITCH: Yes. I would expect that
4 they would screen out.

5 MR. BAKER: Yes, and it was a plant-wide
6 spaces approach that was used.

7 MR. LEITCH: Okay, thanks.

8 MR. BAKER: Okay. So the output from the
9 scoping review was a set of intended functions which
10 are the, as we discussed, the end scope functions.
11 These functions and again, this was a part of the
12 uniqueness that was described, cross over traditional
13 system boundaries and we allowed the function to go
14 where it naturally goes and the best example of that
15 function that crosses traditional system boundaries
16 would be a containment isolation function which would
17 be the active closing all lines and penetrations of
18 containment.

19 In our plant nomenclature, that's C61, but
20 you find that that applies to components in many, many
21 systems. Every line that penetrates containment with
22 isolation valves has a part of that story, but the
23 function went regardless of system designation. And
24 so, as a result there's some overlap of these
25 functions and you find some components showing up in

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1 multiple functions.

2 DR. BONACA: Well, in part, it's because
3 those, some components have multiple functions.

4 MR. BAKER: That's right.

5 DR. BONACA: And in your approach, you
6 really identify a main function for it.

7 MR. BAKER: Yes.

8 DR. BONACA: And you followed through with
9 that approach. Okay, but I understand now the example
10 of the containment is a good one.

11 MR. BAKER: Yes, okay. So I would know
12 that while these functional boundaries cross the
13 traditional system boundaries, all components that are
14 required to perform or support the function once it's
15 identified as in scope are in scope regardless of the
16 system nomenclature. So a B21 function could have and
17 I'm just saying this hypothetically, an E11 component
18 supporting it.

19 As an aid to the screening of the
20 mechanical components, evaluation boundaries were
21 produced for each in scope function. Mechanical
22 components within the evaluation boundaries were
23 screened to identify those subject to aging management
24 review.

25 The screening criteria used were those

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1 contained in 10 CFR 54.21(a)91)(i) and (ii), that is
2 we screened for the passive long-lived components.
3 Within each evaluation boundary we grouped the like
4 components with similar environments. For example,
5 within an evaluation boundary, all stainless steel
6 valves with a demineralized water environment would be
7 identified as a component group.

8 Another component group within the same
9 boundary might be carbon steel valves with a
10 demineralized water environment and another might be
11 stainless steel pipe and so on. Each component group
12 within an evaluation boundary was designated as active
13 or passive and as long or short lived.

14 For review efficiency we performed
15 additional evaluations during this stage of the
16 process. Rather than revisiting each component group
17 again later, during the Aging Management Review
18 process we assigned component functions and identified
19 materials of fabrication and the internal and external
20 environments for each component group during the
21 screening step. It was just for a matter of
22 efficiency.

23 The active-passive determinations for each
24 component group were based on the original component
25 list, arrived at from discussions between NEI and NRC

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1 and the NEI 95-10 document.

2 During our review, we created additional
3 component types and assigned active-passive
4 determinations based on similarity to other components
5 or specific NRC guidance because during the process
6 resolution was achieved on some components that in the
7 original NEI 95-10 list has an asterisk. That
8 resolution was achieved during the process and we
9 applied that NRC guidance to those.

10 Long list components were those not
11 subject to periodic replacement based on qualified
12 life. By repeating this screening process for each
13 evaluation boundary, we produced nearly 2,000
14 component groups. These component groups were then
15 consolidated into commodities prior to performing the
16 Aging Management Reviews.

17 (Slide change.)

18 MR. BAKER: This is a figure from the
19 application. This figure illustrates the process used
20 to consolidate component groups into commodity groups.
21 In this example, we start with two systems that are
22 very similar from a materials and environment
23 perspective, the high-pressure coolant injection
24 system and the reactor core isolation cooling system,
25 E41 and E51 in the Plant Hatch system designation.

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1 Several in-scope functions may be primarily associated
2 with system E-41 HPCI and I've just for illustration
3 purposes indicated that there are four functions here
4 and similarly, that there would be four functions for
5 in-scope functions for E51. In fact, that's not the
6 case. It's just for illustration purposes.

7 As I described on the previous vu-graph an
8 evaluation boundary then is established for each of
9 the in-scope functions. And the components are
10 screened into component groups.

11 Thus, on the third level, which is this
12 level here, you see examples of stainless steel piping
13 and stainless steel valves and as I said, the
14 environments associated with each component group were
15 identified for convenience during the screening step,
16 so we have that information developed here. For
17 simplicity, we only showed demineralized water as an
18 environment on this vu-graph.

19 But you can visualize component groups of
20 stainless steel piping, demin. water, stainless steel
21 valves, demin. water, from the evaluation of
22 boundaries developed out of this E41 path and
23 similarly, out of the E51 path. And obviously, other
24 groupings also exist due to different materials,
25 components and environments. This example is only

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1 intended to show the process and it's complex enough
2 without adding the additional clutter of other
3 materials and environments.

4 The heavy line across the middle of the
5 page in this example is adjacent to the examine
6 environment and materials label. This pictorially
7 represents the output of the screening step. At this
8 point, each component type, for example, stainless
9 steel piping associated with E41 function 1 is a
10 component group because it has a material and
11 environment associated with it. So I have a component
12 group of stainless steel piping, demin. water at this
13 point.

14 Subsequent to screening, but prior to
15 performing the Aging Management Reviews, we further
16 consolidated the groupings by collecting like
17 component groups associated with all in-scope
18 functions into commodity groups. That is, all
19 component groups having the same materials and
20 environments were collected into a single commodity
21 group and the example here shows that being collected
22 into a commodity group of various stainless steel
23 components with a demin. water environment.

24 This commodity grouping was performed to
25 fully utilize a review and evaluation process that

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1 systematically evaluated research information and
2 industry operating experience. Based on those
3 evaluations, it was possible to identify for each
4 combination of materials and environment, a set of
5 aging effects that might be detrimental.

6 DR. BONACA: Did you use the GALL 2
7 report? Because in draft 4 there is a lot of
8 information there.

9 MR. BAKER: It was under development and
10 actually we were observing and then watching the
11 process, but we did not -- we were not able to make
12 use of it during the development of ours. But I will
13 note that a number of the things that you see in this
14 approach are similar to processes that you saw in some
15 of the early development work of the GALL.

16 DR. BONACA: Okay.

17 (Slide change.)

18 MR. BAKER: So based on the process
19 described each structure or component subject to Aging
20 Management Review was included in one or more in-house
21 reviews. The Aging Management Reviews were performed
22 on a commodity group basis and a total 112 Aging
23 Management Reviews were performed, 96 mechanical
24 reviews, 9 civil structural reviews, 5 electrical
25 reviews and 2 reviews performed by our NSSS vendor,

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1 GE.

2 The box in the upper right hand of this
3 vu-graph depicts that aging effects requiring
4 management were determined systematically for each
5 commodity group from the set of potentially
6 detrimental aging effects identified in the generic
7 evaluation.

8 I mentioned this generic evaluation
9 earlier when I was describing the application format.
10 This evaluation is summarized in Appendix C1 of the
11 Hatch application and it's based on work that was
12 performed initially in support of the Oconee
13 application and that's subsequently been used by ANO
14 and Hatch and this is now an EPRI report and is being
15 used by other licensees as they prepare their
16 applications for submittal. It consists of an
17 extensive review of industry literature to identify
18 potential aging effects for various materials and
19 environments of interest and nuclear power plants.
20 The resultant information is systematically arranged
21 into flow charts that can be used by qualified
22 engineers in evaluating the license renewal commodity
23 groups.

24 NRC Generic Communications formed a part
25 of the industry literature examined and synthesized.

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1 In this manner, the industry operating experience is
2 captured. Plant-specific operating experiences also
3 reviewed during performance of the Aging Management
4 Reviews to validate the determinations of aging
5 effects requiring management specifically for Plant
6 Hatch.

7 So the output of the tool is a set of
8 possible or potential aging effects for any
9 combination of environments and materials as an
10 engineer would work through the flow charts. And
11 based on the review of the summary discussion in the
12 report and a review of the plant specific operating
13 experience and the review of other technical
14 literature that the engineer may choose to go to, the
15 engineer would then make an evaluation and
16 determination of whether an aging effect that might
17 occur would be an aging effect that would require
18 management during the renewal term.

19 The box in the upper left hand of this vu-
20 graph depicts the assessment of aging management
21 activities already in place, based on a survey of
22 plant and support organization procedures. If
23 necessary, program enhancements were proposed or new
24 programs or activities identified. Appropriate
25 program coverage for the structures or components

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1 comprising each commodity group was identified or
2 established. And I would -- as you noted earlier, Dr.
3 Bonaca, this process is similar to what you see in
4 some of the GALL work.

5 The demonstration of adequate aging
6 management is made for each commodity group by the
7 combination of programs or activities credited with
8 managing each aging effect for each commodity group.
9 The combination of aging management activity selected
10 in an aging management review had to address all 10
11 attributes we established as descriptive of an
12 adequate aging management program. The program
13 attributes we chose are the same as those identified
14 in the draft standard review plan for license renewal
15 and Butch showed you a vu-graph of one table and how
16 we assessed the programmatic coverage. There is a
17 table like that for every commodity group for every
18 aging effect that was identified as requiring aging
19 management.

20 As I said a moment ago, the generic
21 identification of potentially detrimental aging
22 effects was based, in part, on the review of NRC
23 Generic Communications. So when all the AMRs had been
24 completed at the end, we conducted another review of
25 the Generic Communications that had been issued

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1 subsequent to the initial review and this served to
2 validate that all potential aging effects were
3 addressed by the process.

4 (Slide change.)

5 MR. BAKER: The output from the Aging
6 Management Review is programs, programs and
7 activities.

8 DR. BONACA: These programs you are going
9 to present, are they the existing one, or are they the
10 enhanced one, part of this?

11 MR. BAKER: This is the presentation that
12 I show here is a combination of existing enhanced and
13 new.

14 DR. BONACA: Okay, because I mean your
15 application shows five existing, five enhanced
16 programs and seven new programs. But then there was
17 an interaction with the staff and I believe there was
18 a request by the staff for an additional
19 one-time inspection.

20 I would like at some point anyway to have
21 a summary of the end of your presentation of where you
22 stand right now insofar as enhanced programs and the
23 one-time inspections or the new programs because I'm
24 using application as a basis. I think there have been
25 some changes there?

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1 MR. BAKER: Yes sir.

2 MR. GRIMES: Dr. Bonaca, this is Chris
3 Grimes. I'd also like to suggest that you be very
4 careful about your accounting because the resolution
5 of open items might end up changing the results.

6 MR. BAKER: Right.

7 MR. GRIMES: And we have -- we have
8 promised to come back for the full committee meeting
9 and the discussion of the improved renewal guidance
10 and do the best that we can to do a consistent
11 accounting of one-time inspections across all of the
12 renewal applications.

13 DR. BONACA: Yes, that is exactly why I
14 was asking that question, so there is some flux going
15 on.

16 This is more -- accounting is purely on
17 the perspective we see applications coming in. We see
18 one-time inspections decreasing in number. We're
19 trying to learn as a committee where the industry is
20 going and why some of these programs are not necessary
21 any more. In some cases, we understand and in others,
22 we don't. Also, it gives us an idea of what
23 additional burden license renewal imposes on
24 applicants. And so that's why I asked that question.

25 MR. BAKER: All right. This vu-graph does

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1 not break it down into existing, enhanced or new, but
2 I will address that in just a moment.

3 We have identified 30 programs or
4 activities that will be relied on in the renewal term
5 to adequately manage aging effects for the
6 in-scope structures and components.

7 On this vu-graph I depict two types of
8 programs and activities. In these examples, we credit
9 seven different chemistry activities and six different
10 regulation-driven programs.

11 (Slide change.)

12 MR. BAKER: On the next vu-graph we have
13 designated programs to implement the BWRVIP activities
14 which Robin discussed with you yesterday afternoon and
15 RPV monitoring. In addition, 11 plant-specific
16 programs or activities are credited for managing aging
17 in the renewal term.

18 (Slide change.)

19 MR. BAKER: And then finally on the next
20 vu-graph, I illustrate four new one-time confirmatory
21 inspections that we are crediting.

22 Now another way to describe these programs
23 would be 17 existing programs or activities that
24 required little or no enhancement; 5 enhanced programs
25 or activities; and 8 new programs or activities, half

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1 of which are these new one-time confirmatory
2 inspections. The reason that there's a difference in
3 the number from what you said of 7 and what I said is
4 8 is we have agreed to provide a
5 non-EQ cable monitoring program that will be a 30th
6 program and so it shows up in that listing.

7 The distinction of existing and enhanced,
8 I think is somewhat a blurred line as well because
9 virtually every program will be touched and then some
10 small changes made to it, but that doesn't necessarily
11 rise to the level of being an enhanced program,
12 enhanced in our perspective here I think means
13 significantly altered.

14 DR. SHACK: As I'm looking through your
15 application, it seemed to me that although you're on
16 hydrogen water chemistry, as hard as I looked through
17 the application, I think I found it mentioned once and
18 I assume that means that you don't think you're taking
19 credit for hydrogen water chemistry, that you could
20 justify the extension without it, even though you have
21 chosen to implement it. Is that a correct
22 interpretation of the way you've written the
23 application?

24 MR. BAKER: That's correct, yes. And in
25 fact, the EPRI Water Chemistry Guidelines that we do

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1 credit have provisions for both the normal water
2 chemistry regime and the hydrogen water chemistry
3 regime and so as a matter of our operating flexibility
4 you would want to maintain the ability to periodically
5 for maintenance purposes or whatever other reason take
6 the plant into a normal water chemistry regime
7 temporarily while you affected those activities.
8 Certainly, obviously, our intent and desire based on
9 other considerations is to operate within the regime
10 that is consistent with the BWRVIP guidance in this
11 area.

12 Robin, did you have anything more to add
13 on that?

14 MR. DYLE: Bill, I guess another way to
15 look at it is we didn't want the HWC to be a condition
16 of the relicensing process, but we absolutely intend
17 to use it and because that program is structured for
18 normal or HWC, if for some reason we had to stop using
19 the hydrogen injection, we would still have the
20 ability to manage the VIP program and do the
21 inspections because it's structured for either option.
22 So we simply chose not to take credit in the
23 application for it. But we fully intend to use it.
24 Once you invest that amount of money to protect the
25 plant, it doesn't seem reasonable to stop.

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1 DR. SHACK: Okay, and your argument would
2 be that, in fact, your inspection program would then
3 flip back and forth to cover the -- if and some reason
4 you ever stopped.

5 MR. DYLE: Right. If for some reason we
6 stopped hydrogen, we'd have to go to the normal water
7 chemistry inspection programs. As we discussed
8 yesterday, there's currently only two programs that
9 we've got that HWC built in. The rest of them we're
10 waiting on approval of VIP 72 and resolution of issues
11 with the staff before we broaden the scope of that
12 credit for HWC.

13 DR. UHRIG: A question on the non-EQ cable
14 management program. This would be the medium voltage
15 and high voltage cables primarily since most of the
16 low voltage -- maybe the low voltage cables are EQ?

17 MR. BAKER: Let me ask Jeff Mulvehill of
18 our staff to discuss the scope of that program.

19 MR. MULVEHILL: This is Jeff Mulvehill of
20 Southern Nuclear. The program would actually all
21 types of cables. It will be mainly focused on
22 identifying adverse localized environments or places
23 where the cable could be experiencing accelerated
24 aging. In normal plant environments, the cable is
25 going to last 60 years. That's what our analysis told

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1 us.

2 So it's mainly going to be focused on
3 identifying those areas where cable --

4 DR. UHRIG: This is the visual and
5 inspection time?

6 MR. MULVEHILL: That's correct.

7 DR. UHRIG: And some physical
8 measurements?

9 MR. MULVEHILL: We have not identified in
10 the answer to the REI the exact test that we'll use at
11 that point. Those types of things are still evolving.

12 MR. BAKER: Jeff, is this consistent with
13 the work that's being done in the industry electrical
14 group working in the GALL arena? Is that correct?

15 MR. MULVEHILL: Our cable mirrors the
16 program in the GALL Report.

17 MR. BAKER: Thank you.

18 MR. BARTON: Under the new NRC assessment
19 process, what's the NRC's assessment of your
20 corrective action program?

21 MR. BAKER: Butch, do you want to speak to
22 that?

23 MR. BURTON: I'll take a crack at that.
24 I have to run back and look at the color.

25 (Laughter.)

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1 MR. BARTON: Basically, that's all --

2 MR. BURTON: I don't know that we've got
3 the results, but I know where the chart is posted and
4 at the break I'll run back and check it.

5 MR. BAKER: So in all, these 30 programs
6 that I've put up on these three vu-graphs provide the
7 attributes necessary to manage the aging effects that
8 are identified for in-scope structures and components
9 during the renewal term.

10 (Slide change.)

11 MR. BAKER: Finally, I'd like to describe
12 our process for identifying Time-Limited Aging
13 Analysis. The regulations provide six criteria, all
14 of which must be met in order for a calculation or an
15 analysis to be considered a Time-Limited Aging
16 Analysis.

17 As you can see on this vu-graph, we
18 compiled a list of calculations to broadly include any
19 with a time-limited nature. Because of the large
20 number of calculations, more than 8,300, we initially
21 screened them using the time-limited nature of the
22 calculation criterion.

23 Only those calculations that passed this
24 first test were further screened in more detail using
25 the remaining five TLAA criteria. More than 1,200

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1 calculations passed this initial screening and more
2 than 900 met all 6 criteria.

3 In addition to the review of calculations,
4 a separate CLB review was performed to assure all
5 potential TLAAs were evaluated. In other words, we
6 did a word search of our FSAR and other documents to
7 try to find things that might also appear to be a TLAA
8 and deal with those.

9 (Slide change.)

10 MR. BAKER: And so the final view-graph
11 that I have in this part of the presentation is this
12 view-graph identifies the TLAAs for Plant Hatch that
13 were identified using the screening process that I
14 described. They are fatigue, corrosion allowance, EQ,
15 containment penetration pressurization analysis, RT_{NDT},
16 upper shield energy and an analysis of a technical
17 alternative to a code required inspection of RPV
18 circumferential welds.

19 The way it's broken out in the application
20 is a little different. I've combined a couple of them
21 in the first bullet.

22 DR. BONACA: In the application you have
23 identified them?

24 MR. BAKER: Right, and the last one, I
25 think, we're not -- is not a TLAA based on further

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1 discussion. That was in the application. This was
2 the MSIV cycle items.

3 DR. BONACA: So, okay, the stress analysis
4 for thermal fatigue. Okay.

5 MR. BAKER: Yes.

6 DR. BONACA: Which one did you combine?

7 MR. BAKER: The first one, stress
8 analyses, I think is broken out as two items in the
9 application.

10 That concludes my part of the
11 presentation. I'd be happy to answer any other
12 questions if there are any.

13 If not, I'll turn it back to Butch.

14 DR. BONACA: Well, I have some questions
15 about some of this. Maybe I'll wait for the NRC SER
16 discussion because I have some questions.

17 MR. BAKER: Okay.

18 MR. BURTON: I guess we have a couple of
19 options at this point. Normally, according to the
20 agenda, we'd be taking a break.

21 DR. BONACA: Why don't we do that.

22 MR. BURTON: We're ahead of scheduled, do
23 you want to do that?

24 DR. BONACA: We're ahead of schedule a
25 bit, but I think the best thing to do is to break now

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1 and then to start the NRC presentation after that.

2 So let's resume again at 10 o'clock.

3 (Off the record.)

4 DR. BONACA: Okay, we resume the meeting
5 now with the presentation by the NRC staff.

6 MR. BURTON: Thank you, Dr. Bonaca. What
7 we're going to do now is we're going to start through
8 the Safety Evaluation Report and talk a little bit
9 about some of the results that the staff has as well
10 as a brief discussion of some of the open items that
11 are on the table.

12 Now one of the things that -- the way I
13 had planned to do this was I wasn't going to go into
14 a whole lot of detail if you didn't want me to, so at
15 the appropriate times, please feel free to stop me.

16 We have the appropriate staff members off
17 to the side who will be able to handle any of the
18 tough questions that I can't. So let's get started.

19 Starting with scoping and screening,
20 Section 2. In Section 2.1 in both the application and
21 the SER is where methodology is discussed and as Mr.
22 Baker pointed out in the last session, Southern
23 Nuclear scoped at the function level. In other words,
24 they looked at each system, identified all of the
25 functions for the system and then took each function

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1 and ran it through a series of screens. And when I
2 say that, what I mean is a series of eight questions
3 to basically see whether it meets the scoping criteria
4 as to whether it's safety related, nonsafety related,
5 whose failure could impact safety-related function and
6 needed for any of the four out of five regulated
7 events.

8 And anything that's -- in answer to any of
9 those questions, anything that was a yes was
10 considered an intended function and brought in scope.

11 Screened at the component level. Once
12 they identified the in-scope functions, then they
13 looked at components in each system that were required
14 to meet those functions. And as Mr. Baker said
15 earlier, along with the submittal of the application,
16 they also provided us with the evaluation boundary
17 drawings which was extremely helpful to the staff.
18 Basically, what they did was they took PNIDs and color
19 coded them to help show us exactly where the
20 boundaries were for each function.

21 DR. SHACK: Was that in response to an RAI
22 or was that part of the application?

23 MR. BURTON: The drawings are not
24 technically part of the application, but they were
25 provided to us with the application. It wasn't in

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1 response to an RAI. Those turned out to be very
2 helpful because as was mentioned in the last session
3 and for some of you also, the staff, like you,
4 experienced some what we call navigation problems.

5 DR. BONACA: Those are not part of the
6 application. I imagine they will be retained by the
7 applicant?

8 MR. BAKER: Yes, that's correct.

9 DR. BONACA: So the traceability can
10 always be verified for any issue.

11 DR. SHACK: What is the documentation look
12 like when you go back and you try to pull the string
13 to find out how they went through the screening
14 process with the eight criterion. Is there a
15 checklist? What do you actually see when you go back
16 and you inspect?

17 MR. BURTON: It's actually interesting.
18 Let me put this up. I'm actually going to explain it
19 to you in reverse.

20 (Laughter.)

21 DR. SHACK: Everything's backwards for
22 this application.

23 MR. BURTON: Southern Nuclear started with
24 the scoping and the screening and moved towards the
25 Aging Management Programs. One of the things that we

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1 did as a staff is we started at the Aging Management
2 Programs and worked out way back to see what were the
3 aspects of the Aging Management Programs, for
4 instance, what was in the scope of the Aging
5 Management Program and we would go back to the
6 Appendix C tables to see whether or not all of that
7 had been actually been captured and then from there we
8 took a step further back. So we actually worked in
9 opposite directions and the fact that the application
10 was electronic with point and click and it would take
11 you to different places, we actually found that was
12 one of the navigation problems that we had in that you
13 could point and click in one direction, but it wasn't
14 as easy to go in the other direction the way we were
15 doing the review. So yes, in answer to your question,
16 what we actually did was we actually looked at the
17 Aging Management Programs and looked at what, for
18 instance, what was the scope of this particular Aging
19 Management Program? What commodity groups were
20 included and then we would go from there to Appendix
21 to confirm that there was proper cross referencing and
22 things like that. So it was actually -- it's actually
23 like a fun jigsaw puzzle. I guess that's how you
24 would best put it.

25 DR. SHACK: But that was on the up-front

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1 scoping. That is, when you're trying, you have a
2 function and you're trying to see whether it obeys the
3 A criterion in the rule, how is that documented? It's
4 not in the application, but presumably when you go
5 back and you do an inspection, you see some kind of
6 records and what kind of record is actually produced?

7 MR. BURTON: Actually, I guess the best
8 way to explain that is to talk a little bit about what
9 happened during the scoping inspection, because that
10 is where we did some of the confirmative stuff. Let
11 me put this up real quick.

12 As I mentioned before, as part of the
13 review process, we have three inspections that we do,
14 the first being the scoping inspection which was
15 actually scheduled for late October. We actually did
16 in early September. What we did -- the purpose of
17 that was to make sure that what we were seeing in the
18 application in terms of what was identified as being
19 in scope and what was identified as not being in scope
20 was actually confirmed through looking at some of
21 their source documents as Mr. Baker had identified
22 before, the Maintenance Rule Scoping Manual, the
23 Equipment Locator Index, things like that. So the
24 inspection team actually went down and we took a
25 sampling of several systems and actually walked

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1 through the process and what we found was that as a
2 practical matter, the scoping was actually done in
3 accordance with the way it was described in their
4 application and in accordance with the rule. One of
5 the things that we also found though was that the
6 actual guidance documents at Southern Nuclear that was
7 to explain step by step how to do it, it was results
8 oriented as opposed to step by step, here's what you
9 need to look at, things like that. And we had
10 identified that in the scoping reports, inspection
11 report, that that was one of the areas that needed
12 improvement which they subsequently did. And in fact,
13 the next time we visited them we took a second look at
14 the procedures that provided the guidance for doing
15 the scoping. We found that it was much more in line
16 with what we had expected.

17 So again, to answer your question, what we
18 actually did was and again, a lot of it was driven
19 because of some of the initial questions that we had
20 as a result of navigational problems as we said well,
21 let's sit down and actually take a look at this.
22 Let's look at the evaluation boundary drawings. Let's
23 see what functions are captured. Let's look at the
24 things that are in the boundary. Let's look at the
25 things that are out of the boundary. Let's see how

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1 they documented that and see whether it is in line and
2 appropriate. And we found that as a practical matter,
3 it was.

4 Did that answer --

5 DR. SHACK: That helps. The other
6 question I had was this Maintenance Rules Scoping
7 Manual which would sort of strike me as a secondary
8 source kind of thing. Somehow that meant that
9 somebody went through an analysis, presumably from the
10 FSAR, some more fundamental document and did that once
11 and have other people used that as a kind of a primary
12 source for this approach?

13 I assume that everybody has something like
14 that. They've done it as part of their maintenance
15 rule implementation.

16 MR. BURTON: Yeah, I really can't speak to
17 how other applicants have done it. All I can say is
18 and again, correct me if I'm wrong, the Maintenance
19 Rule Scoping Manual, when you looked at what was
20 scoped in and you compared that to what we were
21 looking at for license renewal, there was a
22 significant amount of overlap, so I think from --
23 again, correct me if I'm wrong, from Southern
24 Nuclear's point of view, work smart, not hard. Let's
25 start with what we have and expand from there.

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1 MR. BAKER: Butch, just to amplify on that
2 and actually maybe clarify a question that was asked
3 during my session, Chuck mentioned that we
4 participated in a demonstration project with the NRC
5 back in the early days of license renewal and one of
6 the things that we did in that demonstration was to
7 present a full plant scoping which was done from a
8 system orientation. And the review at that time asked
9 a number of very difficult questions related to
10 comparing our results to maintenance rule scoping
11 results and so we took out of that a task for
12 ourselves to go back and redo the scoping oriented on
13 functions, similar to the way that the maintenance
14 rule scoping had been done. And so that was the
15 genesis of that. In fact, the maintenance rule
16 scoping that was done was an expert review panel kind
17 of an approach at Plant Hatch. You had a number of
18 people that were assembled together that crossed the
19 spectrum of experience, plant operations people,
20 engineering personnel and so forth to cover everything
21 from operating procedures to the FSAR in identifying
22 the functions and then doing the scoping work in
23 accordance with the maintenance rule. And so that was
24 really the genesis of that document's use for us in
25 license renewal. It was related to our experience in

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1 the demonstration that we did as well as having that
2 ready made source of information available.

3 And I think, also in answer to your
4 question, what you will find in-house is, on a
5 computer data base a record for each function that was
6 identified that answers for each of the eight criteria
7 yes or no, in scope or not in scope as a result of any
8 of those being a yes. So the direct answer is, there
9 is a data base that contains the results.

10 MR. BURTON: And -- go on, I'm sorry.

11 MR. LEITCH: I was going to bring up
12 another issue. I thought there was -- it seemed to me
13 there were some unique problems associated with
14 scoping and screening of skid-mounted equipment.

15 MR. BURTON: Yes.

16 MR. LEITCH: Could you say a couple of
17 words about that?

18 MR. BURTON: That is, I believe, two
19 vu-graphs from now.

20 MR. LEITCH: Okay, fine.

21 MR. BURTON: I'll hold on to that one.
22 But I do want to say that given some of the initial
23 challenges that we had with the scoping portion of the
24 application, the scoping inspection was real critical.
25 We made sure that all of the reviewers who were

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1 involved with the scoping had basically given us a
2 list of tasks for the inspection team, in addition to
3 the things that we had as part of our inspection plan
4 and primarily, we did take a sampling of the systems
5 and actually walked from the beginning of the
6 development of the functions for that system and
7 actually walked all the way through to see how they
8 scoped it, how they established the evaluation
9 boundaries and then ultimately how they did the
10 screening.

11 For the electrical portion, it was
12 actually somewhat done in reverse as Mr. Baker had
13 explained before. For that, they had identified all
14 of the electrical types, regardless, just all of them.
15 And then identified those that were passive and long-
16 lived and then from that population identified those
17 that met the scoping criteria.

18 DR. BONACA: Now you said that you went in
19 reverse, but I also saw in the SER that you reviewed
20 resistance as I mentioned before. So you went more in
21 reverse, you went --

22 MR. BURTON: Yes. Well, those were the
23 three. The reverse process that I spoke about is what
24 the reviewers pretty much did here at headquarters.

25 DR. BONACA: And their review of two of

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1 those three systems showed everything that you would
2 consider in scope was in scope?

3 MR. BURTON: Yes, yes, yes. Okay, one
4 area that I know has come up with some of the previous
5 applications is the issue of design-basis events and
6 what population of events was actually considered in
7 the development.

8 At the time that the application was
9 submitted, Southern Nuclear was in the final stages of
10 putting together what they call the Nuclear Safety
11 Operational Analysis and that has subsequently been
12 finalized and actually been incorporated into their
13 FSAR, but at the time of the application, it was still
14 in draft form. One of the things that we did during
15 the scoping inspection was to take a look at this
16 analysis and what the analysis was was a comprehensive
17 consideration of all the design basis events and as
18 part of that, if you recall from the rule, one of the
19 things that's done is on an annual basis there is an
20 update to the application based on changes to any
21 changes that may have taken place to the CLB. What
22 Southern Nuclear did was because it was in draft form
23 at the time that the application was submitted, they
24 did commit as part of that annual update to take a
25 look at the results of that NSOA, Nuclear Safety

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1 Operational Analysis and to update the LRA based on
2 any additional changes to the CLB that may have come
3 up. And they did that and I think as a result of that
4 there was maybe one additional, the rod block monitor
5 that actually came in scope as a result of that. But
6 as part of our inspection, we did take a look at that
7 NSOA as to understand exactly what DBEs were
8 considered in their evaluation.

9 As a result of our review of the scoping
10 methodology, we did come up with one open item having
11 to do with seismic II/I piping. Seismic II/I piping
12 current is not in scope. The staff had a disagreement
13 with Southern Nuclear about that. We viewed seismic
14 II/I piping as being part of the more general category
15 of non-safety related SSCs whose failure could
16 adversely, you know, the one scoping criteria.

17 From what Southern Nuclear has done is
18 they've identified the seismic II/I piping and have
19 taken the step of seismically supporting that and
20 their point of view is that given that it is
21 seismically supported, the fact that it could fail or
22 fall on safety-related equipment is basically
23 hypothetical at this point. So it is one of the items
24 that we have on the table and we are in continuing
25 dialogues trying to resolve that. So that is one of

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1 our open items.

2 MR. GRIMES: Butch, and this is one of the
3 appeal issues. So for each of the open items that's
4 on the agenda for the appeals session that we're going
5 to have tomorrow, we'll identify those.

6 MR. BURTON: Okay, that's right. That is
7 one of four appeal items and I'll point those out to
8 you as we go.

9 DR. SHACK: And what exactly does that
10 mean?

11 MR. BURTON: Appeal?

12 DR. SHACK: Yes.

13 MR. BURTON: Good question. Appeal items
14 are open items where at least on the face of it the
15 staff and the applicant are fairly far apart and what
16 the license renewal process allows for is an appeal
17 process. The appeal process involves an airing of
18 each side to -- I guess for lack of a better word, a
19 panel. The appeal meeting that we're going to be
20 having tomorrow is basically at the Branch Chief level
21 so what we'll have is a staff and Southern Nuclear
22 each giving their view of the open item and why they
23 feel the way they do and we'll have several Branch
24 Chiefs and Chuck Pierce from Southern Nuclear who will
25 sit and listen to both sides and question and dialogue

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1 and hopefully reach a resolution. If not, the appeal
2 process moves on where we will next schedule another
3 meeting at the next higher management level and we
4 will continue on through like that until we can reach
5 a reasonable resolution. That's what I mean when I
6 say appeal process.

7 DR. SHACK: Now was this used with the
8 other application? Somehow I don't recall hearing
9 about it before.

10 MR. BURTON: It's always --

11 MR. GRIMES: The answer is yes. We
12 established this as part of the procedures for the
13 conduct of the renewal review and it's consistent with
14 the approach of the staff asks one round of questions
15 and then drafts a safety evaluation with open items
16 and then the resolution of the open items is either
17 obvious by virtue of the staff's articulation of what
18 needs to be resolved or the resolution is then
19 appealed to successive levels of management and we use
20 this technique for Calvert and Oconee and it was quite
21 effective.

22 Now for Arkansas, they had six open items,
23 but there was only one appeal issue and that was on
24 the scope of fire protection equipment. And that
25 issue ended up being resolved at the first appeal. In

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1 the articulation of the issue, the staff and the
2 applicant saw various lights and decided on a
3 solution.

4 And for Hatch, we've got four of the I
5 believe it's 17 open items, Butch?

6 MR. BURTON: Eighteen.

7 MR. GRIMES: Eighteen open times. Four of
8 the 18, there's a dispute and we need to air the
9 dispute in order to understand how the open item is
10 going to be resolved. If it's identified as an open
11 item and we don't designate it as an appeal issue,
12 then presumably you will gain some confidence that the
13 staff and the applicant understand what the issue is
14 and what it takes to get it resolved.

15 (Slide change.)

16 MR. BURTON: Okay, moving on to plant
17 level scoping results, Section 2.2 of the SER. We did
18 not have any open items, but I did want to take the
19 opportunity to point out here and actually Dr. Bonaca
20 had mentioned it in the last session. One of the
21 things that we found as the staff in reviewing, in
22 particular, Table 2.2-1 which several of you have
23 mentioned in the last session is that there were
24 several instances where when you look at a system and
25 all the functions that that system performs,

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1 obviously, we know that there are certain things that
2 we know a certain system performs and in the
3 particular case I was going to bring up was
4 containment isolation. We know, for instance, that
5 main steam has a containment isolation function and
6 yet when our reviewer looked at the Table 2.2-1, did
7 not see that identified as one of the functions. This
8 is getting to what you were talking about before. And
9 so that naturally led to the question where is that
10 function? Why do you not have it there? And in our
11 dialogue with Southern Nuclear is when we came to
12 understand that certain functions that cut across a
13 number of systems, they chose to pull out and actually
14 have it in its own place. In this particular example,
15 it turned out to be under C61. But that's another
16 navigational issue that the staff had had to deal
17 with. So that's what I mean when I say grouping of
18 common system functions.

19 (Slide change.)

20 MR. BURTON: Section 2.3.1 of the SER was
21 just an introduction. And then we got into reactor
22 and reactor coolant systems. I've identified the four
23 systems that make up this group. Again, we found no
24 open items. We found that the scoping and screening
25 were appropriate. This is where we started to get

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1 into dialogue with them about some of the BWRVIPs and
2 primarily many of the questions when we asked about
3 why something not in scope and why it is or is not, we
4 were referred back to some of the BWRVIP documents
5 that would identify that this is not an event that we
6 really think would happen and things like that and
7 that's why you would not see it as a system or a
8 component within a system that would have any aging
9 effects that would requirement management. And we
10 found some of the references to VIP in this section.

11 MR. LEITCH: There are a number of VIPs
12 referenced that are not yet approved by the NRC. How
13 did you resolve that issue in your own mind?

14 MR. BURTON: Yes, go ahead.

15 MR. ELLIOT: Barry Elliot. I was going to
16 address that later, but even though some of the VIPs
17 were not approved, we reviewed them and the reviews
18 were far enough along that we could look into them and
19 see how they applied to Hatch. And some of our open
20 items result from those reviews. And I'm going to
21 discuss that later on.

22 MR. LEITCH: Okay, thank you.

23 MR. BURTON: Let's see, where am I? We're
24 going to get to, Dr. Leitch, one of the things that I
25 had asked you to hang on with me for a second.

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(Slide change.)

MR. BURTON: The next section involved the engineered safety feature systems. There were eight of them and I have them listed here. We did have a couple of open items that came out of that. The first, scoping and screening of skid-mounted components for the hydrogen recombiners. This is a complex assembly issue if any of you are familiar with that.

We wrestled with this issue of complex assemblies with Oconee and the emergency diesel generators. At this point in the review, Southern Nuclear has committed to actually doing the scoping and screening in accordance with what was agreed to and is now in the SRP that came about as a result of the review of Oconee.

DR. BONACA: And it's also in the NEI document, right? There is addressing complex assemblies there.

MR. BURTON: It does address complex assemblies. From what I understand the latest revision of NEI 95-10 has made some modifications, but I believe it is still basically there with a few modifications, yeah. So we are actually on our way to resolution on this one.

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1 The second issue, this is one of the
2 issues that's going through the appeal meeting
3 tomorrow. Scoping and screening of housings for fans,
4 dampers and heating and cooling coils for the standby
5 gas treatment system. This is actually going to come
6 back again for a couple of systems in the next section
7 for auxiliary systems.

8 What this involves is housings for active
9 components. Under license renewal, fans, dampers,
10 these components are active. The staff's question is
11 that's fine, but what about the housings for these
12 components? We are looking at that similar to what is
13 currently in NEI 95-10 where they make the distinction
14 between valves and valve bodies or pumps and pump
15 casings. NEI 95-10 specifically identifies valve
16 bodies and pump casings as being passive and rightly
17 so. The staff is saying in the same vein the housings
18 for these active components are similarly, have
19 similar functions in terms of pressure retention,
20 structural integrity, things like that. So this is
21 another item that's on our appeal meeting for
22 tomorrow, on the agenda for our appeal meeting.

23 MR. GRIMES: Butch, if I may, in order for
24 you to understand our terminology distinctions, the
25 first is called the complex assembly issue and that

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1 has to do with how groups of equipment are treated
2 with respect to potential passive functions and the
3 second one is we refer to as a piece parts issue and
4 it's not, again, it's not a new issue. In fairness,
5 from the applicant's perspective, it's how low do you
6 go in terms of breaking active components looking for
7 passive elements and we're going to hopefully learn
8 some, another lesson in this exercise that will help
9 us to clarify how you identify passive elements of
10 active components.

11 DR. BONACA: Yes. This already, these
12 issues were discussed already for the previous
13 applications.

14 MR. GRIMES: Actually, not this particular
15 twist.

16 DR. BONACA: I understand, but I believe
17 that housing for these kind of components for other
18 applications were included.

19 MR. GRIMES: They didn't come up in the --
20 this issue did not emerge in the previous reviews.

21 DR. BONACA: Are they in scope for Oconee,
22 for example?

23 MR. GRIMES: I'm prejudiced to staff's
24 findings. We thought the previous applicants had
25 treated the housings for ventilation system components

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1 as part of the ductwork. And that's why it's at
2 issue. The applicant contends they didn't. Before we
3 go attack the other applicants, we're going to try to
4 settle the matter on this application first.

5 DR. BONACA: When I review this I thought
6 that this issue, not in specific, but in general, but
7 the components had been included. That was my --

8 MR. BARTON: That's the way I felt too.

9 DR. BONACA: Now when you -- in the
10 position of the staff, when you talk about, for
11 example, the housing of a certain component, it
12 identifies specifically a function for it and so
13 you're recognizing other pressure attending function
14 or obstruction contained in the function which is in
15 this license renewal.

16 MR. GRIMES: Correct. In order for the
17 staff to prevail in its position, there has to be a
18 passive function that -- passive safety-related
19 function that we're attempting to manage aging for.

20 DR. BONACA: Okay, thank you.

21 MR. BURTON: One thing I should have
22 pointed out before I got into all of this is how we as
23 the staff approach the scoping and screening reviews
24 which we've done from Day 1 is that things that the
25 applicant identifies as being within scope or being

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1 subject to an AMR, we don't really question that.
2 What we really focus on in our review are things that
3 are not identified as being within scope or subject to
4 an AMR to see if those were actually identified
5 properly. And in fact, back in Section 2.2 with the
6 plant level scoping results, the primary effort for
7 that portion of the review was to go through that
8 Table 2.2-1 and actually look at the functions that
9 were identified as not being in scope and see whether
10 or not we agreed with that and we understood that. So
11 it's almost -- I don't know what you would call it, a
12 negative consent kind of thing. I don't know what
13 you'd call that. But that's how we worked through
14 these.

15 (Slide change.)

16 MR. BURTON: Section 2.3.4, auxiliary
17 systems. As you can see, we had 20 systems that were
18 divvied up amongst our reviewers.

19 MR. BARTON: Before you go past 2.3.4 are
20 you going to talk about 2.3.4?

21 MR. BURTON: No, it's in two slides. I'm
22 going to talk about it now.

23 MR. BARTON: Okay.

24 (Slide change.)

25 MR. BURTON: We did have some open items

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1 here too. The first two are actually analogous to
2 what we had in 2.3.3, the issue of complex assemblies,
3 that diesel was another one where we had the same
4 issue.

5 DR. BONACA: Is that being contested?

6 MR. BURTON: No. This is as I said
7 before, they've agreed to do it like Oconee.

8 DR. BONACA: All right.

9 MR. BURTON: The second one here is the
10 same housing issue, in addition to standby gas
11 treatment in Section 2.3.3 it also applies to the HVAC
12 systems for the Control Building, Outside Structures
13 and Reactor Building. So it comes up. It's all
14 captured in one open item.

15 DR. BONACA: Sure.

16 MR. BURTON: But it's actually identified
17 in several different places.

18 A third open item in this section was
19 scoping and screening of fire protection system in the
20 radwaste building. Initially, this was not captured
21 as being in scope. The staff went through the fire
22 hazards analysis and disagreed with that being
23 appropriate. And I think at this point we have
24 actually gone through and Southern Nuclear actually is
25 going to bring this suppression system within scope.

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1 MR. BARTON: That resolves one of my
2 questions.

3 MR. BURTON: Okay.

4 DR. BONACA: I thought in addition to that
5 was a proposal to have a one time inspection that the
6 staff wants to see as a program, is it?

7 MR. BURTON: That is going to come up in
8 the discussion in Section 3 when we do the Aging
9 Management Programs. And understand that as with
10 anything, if the final resolution is that something is
11 going to be brought in scope, we're also going to be
12 bringing in the Aging Management Review and any
13 applicable Aging Management Programs and assessment of
14 the effects, all the things that go along with
15 bringing that in scope.

16 MR. LEITCH: While you're on the auxiliary
17 systems, I guess I was a little confused about the
18 river water intake structure. How is that done at
19 Hatch? Not the circulating water, but the
20 -- I don't know what they would call it, the RHR.

21 MR. BURTON: I know, plant service water.

22 MR. LEITCH: Plant service water. Okay.

23 MR. BURTON: Okay, let me talk a little
24 bit about that. Commodity-wise, what -- the way the
25 application breaks down is they have an environment

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1 that they call raw water. Raw water is made up
2 actually of -- consists of two different entities.
3 One is river water from which -- which is the source
4 for the plant service water. Another one is well
5 water which is used primarily for fire protection.
6 But they are both captured under the environment of
7 raw water.

8 So yeah, if you're asking about structural
9 stuff, that comes up in Section 2.4. But in terms of
10 the actual service water and that environment and
11 things like that, we actually have plant service water
12 that actually captures that.

13 MR. LEITCH: I guess my question is really
14 the pathway that leads to the ultimate heat sink. In
15 other words, you've got the RHR heat exchanger that's
16 cooled by plant service water.

17 MR. BURTON: Oh no, I'm sorry. Yeah, and
18 I don't have it listed separately out here, but
19 there's actually a plant service water and an RHR
20 service water.

21 MR. BAKER: Butch, if I could interject.

22 MR. BURTON: Please.

23 MR. BAKER: RHR service water doesn't have
24 a separate designation in Plant Hatch's numbering
25 scheme. It's a part of RHR, so it shows up on the

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1 previous vu-graphs about the engineered safeguards
2 features.

3 MR. LEITCH: Okay, and what source does
4 that RHR service water -- where does it take suction
5 from?

6 MR. BAKER: It's at the intake structure.
7 The intake structure is a common structure for both
8 units. It has both plant service water and RHR
9 service water for each unit, specifically the Altamaha
10 River.

11 MR. BURTON: And it actually is called out
12 separately as one of the titles for one of the Aging
13 Management Programs. We actually have PSW and RHR
14 service water both what, chemistry and inspections.

15 MR. BARTON: Leave that on there, Butch.

16 MR. BURTON: Sure.

17 MR. BARTON: Maybe some of my problems
18 here are navigational also. I haven't consulted a GPS
19 on my boat that didn't help me.

20 (Laughter.)

21 Access door systems is talking about
22 containment doors. Within the reactor building there
23 are also, I would imagine, fire barrier doors and I
24 didn't see those covered under access doors although
25 I find fire doors and their management under fire

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1 protection or is it not included at all in the
2 application?

3 MR. BURTON: Probably the best thing for
4 me to do is let them explain how they did it and then
5 I can turn it over to our reviewers.

6 MR. BAKER: Fire doors are covered under
7 the fire protection activities. Some of the access
8 doors may also be fire doors, so they may do double
9 duty.

10 MR. BURTON: And the actual commodity
11 group is actually structural steel when you go to the
12 Section 3 tables.

13 MR. BARTON: All right, and also in this
14 section control rod drive system? It's in this
15 section some place. Page 256.

16 Control rod drive system. I couldn't find
17 where the Aging Management Program is for the SCRAM
18 discharge volume.

19 MR. BURTON: Oh, oh, okay, okay. That was
20 actually -- I'm glad you said that because that helped
21 clarify things for me.

22 The SCRAM --

23 MR. BARTON: I'm glad it helped you.

24 MR. BURTON: We actually, if you go into
25 the SER, our scoping guy actually had a question about

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1 the SCRAM discharge volume and how that actually was
2 captured, where is it, because it's not specifically
3 identified. You're right. This is a navigational
4 problem. It's very typical of many of the issues that
5 the staff had.

6 Now again, correct me if I'm wrong, but I
7 recall that the SCRAM discharge volume was actually
8 captured as piping, does that sound right?

9 MR. BARTON: Yeah.

10 MR. BURTON: It was actually captured as
11 piping and we had a phone call about that which is
12 documented in the SER. I can point that out to you.

13 MR. BARTON: See, my problem is I only had
14 certain sections of the SER to review, so it may be
15 some place else.

16 MR. BURTON: That's an issue. But I can
17 show you where that is. But that's very typical of
18 some of the navigational issues that we had.

19 DR. BONACA: In fact, on access doors, by
20 the way, you had request for additional information on
21 seals because you thought that they were not in scope
22 and then the answer was they were in scope, but the
23 reality they were not subject to AMR because they were
24 replaced or repaired based on the performance and
25 conditions under the preventive maintenance

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1 procedures. And you accepted that answer that says
2 they are in scope.

3 That applies to any doors and seals, those
4 that function as fire protection barriers?

5 MR. BAKER: That's correct. It is both
6 the access doors, the fire barriers as well.

7 Those are -- all of the heavily traveled
8 doors, especially see continuous use and require
9 maintenance replacement of those seals.

10 MR. BARTON: So they're covered under your
11 preventive maintenance program?

12 MR. BAKER: Yes.

13 MR. BARTON: Cranes, hoists and elevators.

14 MR. BARTON: You're going to be here a
15 while.

16 (Laughter.)

17 MR. BARTON: I can't find where reactor
18 building, polar crane, well, that's not a polar crane.
19 The refueling crane, the 125 ton hook and the
20 auxiliary hook, where in their program are they
21 captured for tests? Don't you check the hooks for
22 -- inspect them and do mag particle and crack checks
23 or whatever? Aren't they covered in your program some
24 place? You talk about the component, the structural
25 steel and the crane, but how about the hooks?

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1 MR. BURTON: I have to turn over to him
2 for those specifics. I'm not sure.

3 MR. BAKER: The lifting function part of
4 the crane was an active activity. The scope of our
5 review focused on preventing the crane from falling on
6 the safety-related components.

7 MR. BARTON: You don't care about dropping
8 a load, just that the crane doesn't fall?

9 MR. BAKER: Interestingly, the hatch
10 refueling floor, the main crane, the 125 ton crane is
11 a single failure proof crane with redundant rigging
12 and breaking in the CLB. It's probably unique in the
13 industry.

14 MR. GRIMES: Actually, I'm not sure --
15 this is Chris Grimes. I'm not sure whether it's
16 unique, but I recall there are certain elements, the
17 design of cranes that include linnets and stops and
18 administrative procedures to reduce the likelihood of
19 dropped loads, but it's an interesting question in
20 terms of the distinction between active and passive
21 features and so we can explore that further for you.
22 But I don't know that it came up during the course of
23 our review.

24 MR. BURTON: I certainly know that NUREG
25 0612 and 0554 for single failure proof, I know they

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1 have a lot of provisions for just that kind of thing
2 and I'm sure as Mr. Baker would verify, I'm sure that
3 in the evaluation of a lot of these, where does active
4 end and passive begin is sometimes a question. That's
5 all I can say about that, but --

6 MR. BARTON: Drywell pneumatic system?

7 MR. BURTON: Okay.

8 MR. BARTON: I can't where air receiver
9 and drywell pneumatic nuclear boiler system
10 accumulator are subject to AMR. Are they someplace
11 else or not in the program?

12 MR. BURTON: That rings a bell as another
13 navigational item and let me just double check that.

14 (Pause.)

15 The reason why I'm saying that rings a
16 bell is I think that that was a question that our
17 reviewer asked about those kinds of things. I know in
18 several cases, I'm not sure whether drywell is one of
19 them, but the issue of accumulators and tanks and how
20 were they identified, because when you go to the table
21 --

22 MR. BARTON: Air receiver is another
23 example. I can't find air receiver.

24 MR. BURTON: It's a tank.

25 MR. BARTON: It's under tanks?

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1 MR. BURTON: Tanks. And we had a number
2 of things like that.

3 MR. BARTON: All right.

4 MR. BURTON: The questions you're asking
5 are not unusual. I mean it's the exact same kind of
6 questions the staff had. Navigational questions. Go
7 ahead.

8 MR. BARTON: The question on insulation.
9 It didn't -- I couldn't see where insulation within
10 the drywell was subject to AMR. Is there a specific
11 reason for that or did I miss it? You talk about
12 insulation and what was in scope. I didn't see
13 anything within the drywell covered in that section.

14 MR. BURTON: All right, I promised I
15 wouldn't do this, the person who actually -- go ahead,
16 if you want to --

17 MR. GRIMES: Ray's volunteering to answer,
18 so let's let him answer.

19 MR. BURTON: Okay, go ahead, please.

20 MR. BAKER: The insulation inside the
21 drywell was initially scoped in during our review, but
22 during the process before we submitted the
23 application, Plant Hatch completed it's evaluation of
24 ECCS suction strainer issues, clogging issues and
25 we've determined based on the results of that that

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1 there was no intended function for the insulation
2 inside the drywell and so we removed it from scope.

3 MR. BURTON: Okay.

4 MR. BARTON: The other system primary
5 containment chill water, but the piping inside the
6 drywell is covered in the program, but piping outside
7 is not? Is there a reason for that?

8 MR. BAKER: The purpose of the piping to
9 the extent that it's in scope is to form a part of the
10 containment pressure boundaries, to closed-loop inside
11 containment in that respect. So the piping outside
12 the isolation valves outside containment serves no
13 function.

14 MR. BARTON: This one is a little bit
15 different than navigation. The traveling water screen
16 and trash racks system, the SER describes screen and
17 racks must remain structurally intact during an
18 accident, but not required to move.

19 My question is based on this statement,
20 the applicant did not include screen wash lines and
21 motors and scope. What happens to the service water
22 flow as screens get plugged with debris during an
23 accident?

24 MR. BAKER: There are two aspects. You
25 have the trash racks and you have the traveling water

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1 screens.

2 MR. BARTON: Right.

3 MR. BAKER: As I understand our CLB, the
4 structure, the intact structure part of that was to
5 protect against something like a barge impact or other
6 impacts from things on the river. There is no
7 indication of a problem with clogging due to the
8 design of the structure and the bays, the way that
9 that is arranged. It just is not an issue.

10 MR. BARTON: Then why do you have a screen
11 wash system?

12 MR. BAKER: That's an operational, as I
13 understand it.

14 MR. BARTON: It's not to take care of
15 grass or stuff that flows down a river after a storm
16 which gets through the racks. The smaller it gets
17 through the racks and it can't plug your screens and
18 it can't impact your service water flow?

19 That's an impossible scenario at Hatch?

20 MR. BAKER: I would not say anything is
21 impossible. I don't know the detailed --

22 MR. BARTON: I guess my question, why
23 aren't the screens in the program? It seems if you've
24 got them and they're there to remove debris so you
25 don't impact service water flow, I don't understand

1 how you exclude that from the program. That's my
2 comment.

3 MR. PIERCE: Well, one other aspect of
4 that and I'm not that familiar with the technical
5 discussion that you're bringing up, but I do know that
6 the CLB specifically states that the only credit being
7 taken for the traveling screens is the structural
8 aspects of it staying in place. If you go back into
9 our FSAR and look at that, that's specifically stated
10 and I'd have to go back to my people and discuss the
11 technical reasons of why that is.

12 MR. BARTON: You may want to talk to
13 people at Salem also.

14 MR. PIERCE: We owe you one on that one.
15 More?

16 MR. BARTON: Yes. The condensate transfer
17 system, pumps and piping are discussed as not being
18 essential water sources for accident mitigation, but
19 my question is aren't they a backup source and if
20 they're a backup source why aren't they included in
21 the program?

22 MR. BURTON: Could you repeat?

23 MR. BARTON: Condensate transfer system,
24 pumps and piping, it's in the SER, says may not being
25 essential water sources for accident mitigation, but

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1 my question is aren't they a backup source and if
2 they're a backup source why aren't they included in
3 the program?

4 MR. BAKER: I don't believe they're a
5 backup source.

6 MR. BARTON: They're not a backup?

7 MR. BURTON: The condensate transfer
8 provides the transfer of demineralized water from the
9 chemical plant to the condensate storage tank.

10 MR. GRIMES: This is Chris Grimes and Mr.
11 Barton makes a good point in terms of the scoping
12 technique that's used for license renewal includes
13 those things that are credited in the accident
14 analysis as part of the current licensing basis.
15 Particularly in a BWR where there are so many
16 overlapping ECCS capabilities, we only capture for the
17 purpose of the Aging Management Review, those things
18 that are explicitly credited as performing intended
19 safety functions. There are going to be a series of
20 backup capabilities. They might not be captured in
21 the review because they are not explicitly treated or
22 relied on in preventing or mitigating accidents in the
23 current licensing basis.

24 MR. BARTON: That's all I've got.

25 MR. BURTON: So I guess to piggyback on

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1 what Chris said, the thing that has really come
2 through with all of the applications is how -- what's
3 really come through is how important it is to really
4 know your CLB. The better you know it, the better it
5 is for all concerned.

6 And we found that in particular where
7 we've had problems like in fire protection, just the
8 whole history of fire protection is that people have
9 done a lot of different things with it and there have
10 been all kinds of exemptions to things and the issue
11 of the -- that I pointed out before about the fire
12 suppression system and whether or not it was in scope.
13 Being able to track through exemptions and changes to
14 the FHA and things like that speaks to the importance
15 of really knowing and understanding your CLB. And it
16 has come up from time to time.

17 DR. BONACA: Let me just propose that
18 these are good questions.

19 MR. BARTON: I'm done.

20 MR. BURTON: These are very good
21 questions.

22 DR. BONACA: Because it provides some
23 comfort to the committee that we can trace back some
24 of these issues although the navigation issues may be
25 there.

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1 Could we get maybe an answer next week?

2 MR. GRIMES: Yes. I've noted the -- Mr.
3 Barton's questions. And we are going to go back and
4 explore each of those in terms of traceability for
5 Hatch specifically and then all these questions about
6 to what extent the current licensing bases capture
7 these capabilities. And I've got crane hooks, the air
8 receivers, the intake design and the condensate
9 storage tank water source.

10 Whether or not debris accumulation during
11 an accident is considered as part of the design basis.

12 MR. BURTON: Good, very good questions.
13 Okay. Moving right along to steam and power
14 conversation systems.

15 (Slide change.)

16 MR. BURTON: Again, no open items. When
17 all was said and done we saw that the scoping and
18 screening was proper. We did have a question on main
19 condenser and why it was actually captured in scope,
20 but at Unit 2, main condenser is credited as a hold up
21 volume during accidents, sort of played out things
22 like that. But no open items there.

23 Next we went into structures and
24 structural components.

25 (Slide change.)

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1 MR. BURTON: We have 13 items in this
2 category. No open items. Again, we had several
3 requests for additional information. Some of them
4 were navigational in nature, but bottom line is once
5 we understood where the applicant was going, we saw
6 that they had actually scoped and screened
7 appropriately, so we had no open items in this
8 section.

9 The next section was electrical.

10 (Slide change.)

11 MR. BURTON: Fourteen systems were
12 identified in the application. These first couple Dr.
13 Leitch had already made mention of in terms of where
14 you could find them and actually as you were looking
15 in Section 2.3 you couldn't find them they were
16 actually in Section 2.5 under electrical. Again, no
17 open items, given that electrical -- the electrical
18 scoping and screening was actually sort of reversed of
19 how it was done with the mechanical and civil. They
20 identified component types. Identified those that
21 were passive and long-lived, in that population,
22 looked at the ones that actually met the scoping
23 criteria.

24 That's pretty much what I have for Section
25 2, the scoping and screening. I've got to do list.

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1 Any other comments, questions on any of this?

2 DR. BONACA: I don't think so. Any
3 questions?

4 MR. BURTON: Okay, moving into Section 3,
5 I'm actually going to have some of the lead reviewers
6 actually discuss their sections, so I'll have them
7 come up and try and clear some of this out of the way.

8 MR. GRIMES: While Butch is doing a set
9 up, I think this might be an appropriate time to
10 respond to Mr. Barton's question about the Quality
11 Assurance Program and Rob, did you find --

12 MR. ELLIOTT: I couldn't find it on my
13 --

14 MR. GRIMES: Okay, couldn't find it on the
15 web, but the latest posted chart outside Sam Collins'
16 office of the Reactor Oversight Program is dated
17 January 25th and it shows to all of the performance
18 indicators for Hatch Units 1 and 2 are green, except
19 for one category and the EP03 category is designated
20 as unique, so it's not color coded for Hatch. So
21 they're green across the board on the performance
22 indicators.

23 For the inspection findings, there are
24 seven categories of inspection findings and some have
25 findings for one unit, but not the other. There are

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1 five greens on the chart for the inspection findings
2 and nine no finding areas. So all of the oversight
3 indicators for Plant Hatch are in the green.

4 MR. BARTON: Thank you.

5 (Slide change.)

6 MS. KHANNA: Good morning. My name is
7 Meena Khanna and I'll be talking to you about Section
8 3.1 which is the Aging Management Programs of the
9 Hatch SER.

10 SNC originally identified 29 Aging
11 Management Programs. After a staff review, the staff
12 identified the need for an additional Aging Management
13 Program which is on non-EQ cables. Later, the
14 applicant did agree to add this Aging Management
15 Program on cables.

16 I'll be discussing the significant open
17 items that the staff has identified for the Aging
18 Management Programs listed on this vu-graph. Then
19 after my discussion, Jay Rajan will discuss open items
20 on the Fire Protection Aging Management Program.

21 Okay, the first one is Reactor Water
22 Chemistry Control Program. The applicant based its
23 Reactor Water Chemistry Control Program on EPRI
24 TR103515 which is the BWR Water Chemistry Guidelines,
25 Rev. 2. The staff is familiar with Revision 1, so

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1 what we're asking, we've asked the applicant to
2 address the differences between Rev. 1 and Rev. 2 so
3 that we can understand what the aging effects for the
4 Reactor Water Chemistry Control Program, the
5 differences in the aging management effects that are
6 addressed in the reports. We're just asking for the
7 differences, so that we know, you know, what we need
8 to understand to review the program.

9 Okay, for the Diesel Fuel Oil Testing
10 Program, the applicant indicated that corrosion is an
11 aging effect for these diesel fuel oil tanks. So
12 therefore, the staff has requested that the applicant
13 address corrosion and lack of inspection for the
14 diesel fuel oil tanks.

15 DR. BONACA: And here, if I understand the
16 issue, the concern is --

17 MS. KHANNA: The one time inspection.

18 DR. BONACA: -- stagnant water?

19 MS. KHANNA: Right.

20 DR. BONACA: In the bottom that may cause

21 --

22 MS. KHANNA: Corrosion.

23 DR. BONACA: Corrosion.

24 MS. KHANNA: In these tanks, right. And
25 actually, in the report, if you look at the SER,

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1 that's where we actually talk about the one time
2 inspection.

3 DR. BONACA: Yes.

4 MS. KHANNA: Okay.

5 DR. BONACA: If I remember, this was
6 already an issue with previous application.

7 MS. KHANNA: Right. We've done that with
8 all the other applications, we've asked for that.

9 DR. BONACA: This is an open item being
10 appealed?

11 MR. BURTON: No, this is not an appeal
12 item. In fact, what has gone on since issuance of the
13 SER is that Southern Nuclear has actually, I don't
14 know if you want me to speak on that or if you wanted
15 to -- they've actually done an inspection of one of
16 their large diesel generator fuel oil storage tanks.
17 Found no significant corrosion in the tank bottoms and
18 so now the argument is how applicable is that result
19 to the other three diesel fuel oil storage tanks as
20 well as the two smaller fuel oil storage tanks for the
21 diesel fire pumps. So we are in dialogue on that.

22 MS. KHANNA: Okay, going on to the Torque
23 Activities Program, the applicant did not identify
24 stress corrosion cracking as an aging effect for high-
25 strength bolting, however,

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1 high-strength bolting is susceptible to SCC if it has
2 been heat treated to a high hardness. Therefore, the
3 staff requested that the applicant address the
4 susceptibility of stress corrosion cracking to high
5 strength pressure boundary bolting.

6 All right, for the Reactor Pressure Vessel
7 Monitoring Program --

8 DR. BONACA: Again, I would like to --
9 every time you go through one of these I would like
10 you to comment if it is, in fact, one which is being
11 appealed or not.

12 MS. KHANNA: Okay, I can do that.

13 DR. BONACA: To give us an understanding.

14 MR. BURTON: No, this is not an appeal
15 item, and in fact, this was spoken on a little bit
16 yesterday by Jim Davis with the high strength bolting.

17 MR. GRIMES: This is Chris Grimes. This
18 isn't a plant-specific appeal. This is an
19 industry-level appeal. As Jim explained yesterday,
20 the industry has challenged us in terms of the
21 evaluation guidelines, making the high strength bolts
22 or differentiating high strength bolts on a generic
23 basis.

24 But the applicant understands what our
25 expectations are for our ability to get to a plant

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1 specific resolution of this.

2 MR. BURTON: Let me just say that none of
3 the items on this page are part of tomorrow's appeal
4 meeting.

5 MS. KHANNA: Okay, thanks. For the
6 Reactor Pressure Vessel Monitoring Program, the
7 applicant indicated that it plans to implement the ISP
8 which is the Integrated Surveillance Program, but is
9 currently under staff review. However, if the ISP is
10 not improved by the staff or if it is modified such
11 that Hatch is not going to be covered by the ISP, the
12 applicant has indicated that it would develop an RPV
13 Surveillance Program for the renewal period.
14 Therefore, this will remain an open item until the ISP
15 is approved.

16 Finally, the RHR Heat Exchanger Augmented
17 Inspection and Testing Program, the applicant did not
18 identify vibration-induced cracking as an aging effect
19 for the RHR heat exchanges. The staff requested that
20 the applicant provide details regarding how the RHR
21 heat exchanger augmented-inspection testing program
22 manages vibration-induced cracking.

23 Okay, and if you don't have any further
24 questions on these Aging Management Programs, Jai
25 Rajan will continue on with Fire Protection Aging

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1 Management Program.

2 MR. BARTON: Are you still on 3.1?

3 MS. KHANNA: Yes.

4 (Slide change.)

5 MR. RAJAN: I am Jai Rajan and I will be
6 discussing the two open items which were identified in
7 the Fire Protection Program.

8 The first item is related to the testing
9 of sprinkler heads in the fire suppression system.
10 And the second one relates to the sprinkler head
11 inspections intervals.

12 MR. BARTON: What was the second one
13 again?

14 MR. RAJAN: Sprinkler head inspection
15 intervals.

16 MR. BARTON: Intervals, okay.

17 MR. RAJAN: The applicant routinely
18 performs sprinkler piping float tests to check for
19 clogging from corrosion products. And this is done as
20 part of its normal fire protection activities.

21 MR. BARTON: They actually run water
22 through sprinkling systems?

23 MR. RAJAN: Through the sprinkler header.
24 The way they run this test is they open the sprinkler
25 head valve and the farthestmost sprinkler in the system

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1 and look for the flow through the valve to check for
2 clogging. If there is unobstructed flow, the flow
3 normally proceeds and that indicates there is no
4 clogging in the system.

5 The staff was initially concerned that
6 these may not be adequate for demonstrating
7 operability of all the sprinkler heads during the
8 extended period of operation. However, as the staff
9 position has evolved, the staff is no longer requiring
10 additional testing for checking flow blockage and
11 clogging in the piping headers, so this issue most
12 likely is going to be resolved.

13 MR. BURTON: Let me break in just for a
14 second. We spoke in some of the earlier sessions
15 about the impact of GALL, in particular, on the Hatch
16 license renewal application and I think we had
17 explained that due to the timing, they weren't always
18 able to incorporate some of the lessons learned from
19 GALL, but what we're finding is, as we're going
20 through this stage, as GALL, as some of the issues
21 related to GALL are being resolved, we're at a point
22 in our review where we can actually incorporate them
23 and this is one of them, the whole issue of the flow
24 testing of the fire headers.

25 DR. BONACA: And what's the solution that

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1 GALL suggests? The question that was raised here was
2 that the testing of the just farthest most head in the
3 system is not a demonstration that the other heads are
4 working.

5 MR. GRIMES: This is Chris Grimes. The
6 way that the issue was described yesterday in relation
7 to GALL, it was described to us -- I've forgotten the
8 word. But it's the flow plugging issue where we made
9 the distinction between the active features of system
10 flow and the crud deposits' impact on corrosion and
11 the attack on the pressure boundary and so we do not
12 look at flow, loss of flow as a passive element, but
13 we do look at the impact of the crud build up as its
14 impact on an aging effect. And that's -- we've
15 applied that conclusion in this case.

16 And I don't know if you want us -- whether
17 or not you want to pursue the question about how these
18 tests -- how the active tests are performed relative
19 to how they test, flow through the sprinkler without
20 sprinkling safety-related stuff which is an issue that
21 has come up before.

22 DR. BONACA: Sure.

23 MR. GRIMES: And Mr. Barton says no, we
24 don't have to explain it again.

25 MR. RAJAN: Okay, now with regard to the

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1 second open item, the sprinkler head inspection
2 intervals, the applicant is proposing a one-time
3 inspection at or before 50 years of service life. The
4 staff is concerned that this may not be sufficient for
5 an Aging Management Program throughout the extended
6 period of operation. The staff position which is
7 based on the National Fire Protection Association
8 Codes and Standards requires that where sprinklers
9 have been in place for 50 years, they shall be
10 replaced or representative samples tested for field
11 service operation in a recognized laboratory. And
12 after this initial testing, thereafter every 10 years.
13 So there is a clear distinction between the staff
14 position and what the applicant is proposing and so
15 this remains an open item.

16 DR. BONACA: Is this being contested?

17 MR. BURTON: Yes. I was going to say
18 neither one of these items are on the agenda for the
19 appeal meeting right now.

20 DR. BONACA: So that would substitute a
21 one-time inspection with a program?

22 MR. BURTON: Yes.

23 MR. RAJAN: That concludes my
24 presentation.

25 MR. BARTON: I have a question on 3.1,

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1 Butch. Torus Submerged Components Inspection Program
2 talks about lots of components within the torus --
3 where is the torus itself covered?

4 MR. BURTON: Yes, containment.

5 MR. BARTON: It's under containment?
6 Okay.

7 DR. BONACA: I have a question on the
8 embedded components. This is listed under passive
9 component inspection activity. There is a program, I
10 believe, the Passive Component Program. Okay, so it's
11 an existing program right now. Right? Or is it a new
12 program? New program.

13 And if I understand it. It's similar to
14 what we have seen in other applications which is
15 essentially in case you have maintenance activities or
16 design changes that will expose embedded piping, then
17 you will perform inspections. Okay, so that's the
18 same program that we have seen before?

19 MR. BURTON: Yes. Let me speak to that
20 very briefly, because that was one of the items that
21 we looked at in our second inspection which we just
22 completed a couple of weeks ago.

23 The issue of buried and embedded
24 components, both mechanical and structural, you know,
25 our concern was -- and the purpose of the second

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1 inspection was to see how these things were actually
2 implemented with the on-site procedures. And what is
3 actually done is yes, the Aging Management Program
4 that you mentioned also the Protective Coatings
5 Program and the Structural Monitoring Program also
6 have provisions to make sure that when structures or
7 buried components are dug up for some reason that we
8 take that opportunity to inspect them and take a look
9 at them and we actually have looked at their
10 excavation procedure on site and they have actually
11 proposed changes to that procedure to make sure that
12 when they do excavation, there's a heads up in the
13 procedure to actually do that.

14 DR. BONACA: Now this is an activity that
15 takes place irrespective of whether or not you have
16 indications from exposed piping that there may be some
17 problem with that, right?

18 MR. BURTON: That's correct.

19 DR. BONACA: In case you do have
20 indications, then you would have a more aggressive
21 program, go after -- and there is provision under the
22 program or is this separate provision, the one that
23 says that should you have indication in structures
24 that from exposed equipment that embedded equipment
25 may be affected, I thought you had a specific program

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1 for that?

2 MR. BAKER: I don't recall the detail of
3 the Passive Component Inspection Program as to whether
4 it has a scope expansion item in it. We'll go look
5 and get an answer for that.

6 DR. BONACA: I appreciate it. Thanks.

7 MR. GRIMES: This is Chris Grimes. To try
8 and avoid some further confusion in the Generic Aging
9 Lessons Learned, we referred to this as inaccessible
10 components and there was a distinction between those
11 things that are covered by the code, the structural
12 elements under IWE were treated separately from
13 inaccessible -- other inaccessible features that are
14 covered by the code, and then of course, anything
15 that's not covered by the code we treat it as
16 inaccessible in a broader way.

17 DR. BONACA: Okay. Thank you.

18 (Slide change.)

19 MR. ELLIOT: I'm Barry Elliot, Materials
20 and Chemical Engineering Branch of NRR. I'm going to
21 discuss the reactor and reactor coolant system. The
22 reactor and reactor coolant system is the reactor
23 pressure vessel, the reactor vessel internals, the
24 reactor recirculation loops, the reactor coolant
25 system piping and valves which includes the main steam

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1 line, the safety relief valves, the main steam
2 isolation feed water lines, feed water line check
3 valves and instrumentation and control.

4 There are 15 Aging Management Programs
5 associated with these components. Two of them, the
6 Boiling Water Reactor Vessel and Internals Program and
7 the Reactor Pressure Vessel Monitoring Program
8 reference the BWRVIP Programs. There are 12 BWRVIP
9 Program Reports that establish guidelines for
10 inspection during the license renewal period. The
11 Reactor Vessel Report -- we have not completed review
12 of the Reactor Vessel Report, however, we have
13 reviewed it relative to Hatch and it's referenced in
14 our safety evaluation how it affects Hatch and we're
15 satisfied with what Hatch has provided to resolve the
16 reactor vessels issues.

17 The other BWRVIP Report that is not
18 complete for review is Core Shroud Report and the Core
19 Shroud Report for inspection, the inspections during
20 the current license term are being carried over into
21 the license renewal period and that's found acceptable
22 by the staff for Hatch.

23 And the last one that we haven't
24 completed, but we really have completed, we just
25 haven't put the SER on is the jet pump assembly and

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1 that takes care of all the ones that are as far as
2 inspection is concerned.

3 As far as open items, I would like to say
4 that BWRVIP did a wonderful job of looking at all of
5 the current issues that projecting them out into the
6 future. However, we have two issues that we think
7 they need to address. First, is a loss of fracture
8 toughness resulting from neutron irradiation for the
9 CASS jet pump assemblies and the fuel supports. The
10 CASS stainless steel is composed of two phases, a
11 ferritic phase and an austenitic phase and the
12 ferritic is subject to thermal embrittlement and
13 neutron irradiation embrittlement. And I mention
14 neutron irradiation embrittlement here because I think
15 that thermal embrittlement is not going to be a
16 problem here, in particular, because the BWRs operate
17 at much lower temperatures and that should make the
18 thermal embrittlement less of a problem.

19 The flip side of that is the lower the
20 temperature, the more neutron embrittlement you get.
21 So this is why we're concerned about this. And we
22 think that this is an area where inspection -- if we
23 don't see flaws, if we don't see cracks in the CASS
24 stainless steel components, then we wouldn't be
25 concerned about the loss of fracture toughness. And

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1 this is a case where an inspection of the limiting
2 component, CASS stainless steel components would be
3 appropriate.

4 DR. BONACA: It's a one-time inspection
5 you're asking for?

6 MR. ELLIOT: Yes.

7 DR. SHACK: Just on that very -- is the
8 CASS part of that, has that ever been observed to have
9 -- there's jet pump fatigue problems, but has it ever
10 affected this CASS component?

11 MR. ELLIOT: At the time we don't have a
12 problem with CASS stainless steel components, but
13 current inspections are of the welds and the adjacent
14 material. So we're going to ask that it be expanded
15 a little bit.

16 DR. BONACA: And you can see that the jet
17 pump assembly components as the limiting component for
18 CASS assembly?

19 MR. ELLIOT: Yes.

20 DR. BONACA: Okay.

21 MR. ELLIOT: The second issue is cracking
22 of the small-bore piping. Our concern here is that we
23 are giving a license for 60 years and in the first 40
24 years we're not going to do any volumetric inspection
25 of small-bore piping and so we think that it's

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1 necessary to do a one-time inspection to convince
2 ourselves that cracking isn't occurring on these type
3 of lines and a sampling of lines would be appropriate
4 of the small bore piping. We prefer -- the
5 susceptibility here is to -- what we're worried about
6 is stress corrosion cracking in and turbulent
7 penetration and stratification, fatigue issues. And
8 if we can get the most susceptible components
9 inspected, we'd be satisfied and again, a one-time
10 inspection.

11 DR. BONACA: And it would be just for a
12 specific limiting components?

13 MR. ELLIOT: Right. If that can be
14 judged. If it can't be judged, then we would just
15 take -- we would look at the consequences and maybe
16 take the components with the most consequence and
17 inspect those.

18 DR. BONACA: Are these open items being
19 appealed?

20 MR. BURTON: No appeal on these.

21 DR. BONACA: I have a question --

22 MR. PIERCE: Let me -- there are some open
23 items that we're still in the process of working out
24 with the NRC and if we -- and at some later date we
25 may take an open item into an appeals stage later,

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1 even though we're not appealing them tomorrow, they
2 could come at a later time.

3 DR. BONACA: I understand of the ones that
4 you already are dealing with, I understand you have
5 these options, sure.

6 MR. GRIMES: Dr. Bonaca, this is Chris
7 Grimes and I want to take this opportunity to point
8 out this is another one of the GALL appeal issues that
9 we discussed yesterday.

10 DR. BONACA: Yes.

11 MR. GRIMES: The industry has challenged
12 the need for one time inspections on small-bore
13 piping.

14 DR. BONACA: Yes.

15 MR. GRIMES: On a generic basis.

16 DR. FORD: I have a comment. I agree with
17 you that on the VIP reports relating to disposition of
18 stress corrosion cracking of austenitic alloys,
19 stainless steels, the nickle base alloys. It seems as
20 though the disposition curves are reasonably
21 conservative. I would have a bit concern, however,
22 about the conservatism for the alloy steel stress
23 corrosion cracking enunciated in I think VIP-60.

24 It relates to -- if, in fact, those are
25 not conservative curves for alloy steels, then we

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1 could have a safety issue for cracking at the H9 weld,
2 for instance, or at the core penetrations and then the
3 bottom head.

4 What assurance do we have that as more
5 -- if there is more data coming out, to show that
6 those can't -- 60 disposition curves are not
7 conservative, can we address those?

8 MR. ELLIOT: Gene is coming to the
9 microphone.

10 MR. CARPENTER: Yes, Dr. Ford, just
11 because of you, Dr. Ford, yes. Gene Carpenter of
12 EMCBC. As we discussed yesterday in the BWRVIP
13 Program, the program is looking at the Aging
14 Management Program consists of all the INE documents
15 and those are supported by the crack growth and the
16 various mitigation documents, including the BWRVIP 60
17 documents just referenced.

18 If the staff finds or the industry brings
19 to our attention that there are nonconservatisms that
20 come along due to aging, we will revisit the programs.
21 At this time, to the best of our knowledge, this 60
22 report appears to be accurate.

23 But if it does not continue to be so, we
24 will come back and relook at it.

25 DR. FORD: And following on from that,

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1 what programs shall we have in place for monitoring
2 the cracking of those very thick section components,
3 H9 and the bottom head. How will we know if they're
4 not cracking?

5 MR. CARPENTER: And again, the inspection
6 programs that are called out are the ones that will be
7 doing those monitoring and as was pointed out
8 yesterday, the industry provides to us on a semi-
9 annual basis a listing of all the inspections that are
10 done for every plant, so we would be able to see if
11 there is any trending of cracking occurring.

12 MR. DYLE: If I could, this is Robin Dyle
13 for Southern Nuclear. Peter, the other thing that
14 maybe I didn't make clear yesterday, one of the
15 documents that we credit in our application is VIP-38
16 which is the document that requires the inspection of
17 the H8 and H9 welds, so there are inspections being
18 done.

19 Because of some overseas incidents of
20 cracking, we're evaluating the impact of that.
21 Whether the document should be revised or not and will
22 incorporate the appropriate results and we have on-
23 going work with the staff. They're aware of the
24 situation, we are and we're working on it, but the
25 inspections are being done at H9.

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1 In accordance both with VIP-38 and it's
2 currently required by Section 11 to be inspected also.

3 DR. FORD: If there was cracking it would
4 be a huge safety concern. And that's why I bring it
5 up.

6 MR. DYLE: And there's quite a few
7 evaluations that have been done to assess that. It
8 was done as part of the VIP-05 report which this
9 committee has reviewed several times to look at the
10 possibility of what happens if you have stress
11 corrosion cracking that might propagate from clad into
12 the reactor vessel. But it's been thoroughly
13 investigated.

14 MR. ELLIOT: Your question had to do with
15 the internals or was it to the vessel?

16 DR. FORD: Vessel.

17 MR. ELLIOT: I'm going to answer the
18 vessel question. That's my area. And we don't think
19 that stress corrosion cracking of the alloy steel is
20 an aging effect we have to be concerned about. Let me
21 tell you why. We've had a few cases where we have
22 seen cracks go through the clad and they just don't
23 propagate. They go through the clad and they just --
24 we inspect them year after year, not year after year,
25 but every 10 years. And they just don't go anywhere.

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1 They just stop right there, they blunt. The other
2 case is a summer case, is whether the cracks went
3 right through the Inconel 183, got to the carbon steel
4 and stopped. So that was primarily more due to stress
5 corrosion cracking and so we've seen in our experience
6 that stress corrosion cracking of low-alloy steel is
7 not an issue that we're concerned about.

8 DR. FORD: I would agree entirely with you
9 for 99 percent of the cases and you're absolutely
10 correct. However, there have been at least one case
11 as I know of, if not two where a crack has penetrated
12 considerably into low-alloy steel underneath the
13 cladding.

14 MR. ELLIOT: And I would say this, when I
15 say it's not -- we don't consider it an issue. We
16 looked at it as far as the BWR VIP-05 which was the --
17 we talked about yesterday which was the
18 circumferential welds and that -- in that analysis was
19 done two ways. We did it one way and the industry did
20 it another. The industry's way was a probability
21 argument, a probability analysis. In their analysis
22 they looked at the probability of a stress corrosion
23 crack based upon their experience penetrating and then
24 they grew the initial crack based on those
25 probabilities and was able to through the Monte Carlo

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1 simulation technique, determine the impact of stress
2 corrosion cracking on fracture of the weld and it
3 turned out from their method of evaluation that it was
4 not significant and the failure probability on the
5 circumferential welds were very, very low.

6 DR. FORD: I agree with you in principle,
7 yes, but given the severity of a problem I would
8 question whether the data upon which such statistical
9 analysis such as experimental data is up to the
10 quality for this severe a problem, potential.

11 MR. ELLIOT: And I agree, it's a potential
12 problem. What we're doing is we inspect the axial
13 weld. They're at higher stresses than the
14 circumferential weld, so they are sort of like the
15 limiting material and if we see stress corrosion
16 cracking of the axial weld, then we could go to the
17 circumferential weld. I'm not saying we don't think
18 it's significant. It doesn't mean we're not
19 interested in it. We're interested in it and we have
20 an inspection for it. But we just don't think, based
21 upon our experience that it's a significant issue.

22 DR. FORD: I won't belabor the point any
23 more.

24 DR. BONACA: It's a well-taken point and
25 I think -- I have a question just regarding the void

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1 swelling.

2 MR. ELLIOT: The what?

3 DR. BONACA: Void swelling. The fact is
4 of the problem. Now I agree that it shouldn't be a
5 problem because the plants are not running at the
6 temperature that would justify that, just in the SER
7 it's confusing because it says since BWR reactor
8 vessel has relatively low nuclear neutron fluence and
9 the applicant would perform inspections in accordance
10 with the -- I mean is it an issue or is it not?

11 MR. ELLIOT: We don't think it's an issue
12 because it's at lower temperatures. But even if it
13 was an issue, even if it ever became an issue, they're
14 doing inspections already of the critical areas of the
15 core shroud. It would show up as cracking or
16 something.

17 DR. BONACA: Yes. Okay.

18 DR. SHACK: They have much more likely
19 problems to occur if they do have a strike force.

20 DR. BONACA: I understand. I'm only
21 saying that they're not specifically doing this
22 inspection to look at swelling because swelling is a
23 credible issue there. I think that's -- all right.
24 I was trying to understand if it is will an issue and
25 they're looking for it.

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1 MR. ELLIOT: No, they're not looking for
2 it. It's lower temperature and it's not an issue.

3 DR. BONACA: You are saying if it was
4 active then something would be a problem. That's a
5 different story. Thank you.

6 MR. BURTON: Okay, next we'll talk about
7 the ESF systems, the auxiliary systems, steam and
8 power conversion systems and Carolyn Lauron will do
9 that.

10 (Slide change.)

11 MS. LAURON: Okay, my name is Carolyn
12 Lauron and today I'll be presenting the next three
13 sections, the summary of the Aging Management Reviews
14 for the Engineered Safety Feature Systems, the
15 Auxiliary Systems and the Steam and Power Conversion
16 Systems.

17 Let me preface my presentation with a
18 statement that the concerns identified by the staff
19 during their review has been addressed in a previous
20 section, the Aging Management Program Section which
21 was discussed earlier by Meena Khanna.

22 The ESF system consists of eight different
23 systems and includes a wide range of materials and
24 environments as noted on the slide. The staff did not
25 identify any open items.

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1 The auxiliary system consists of 20
2 systems and encompasses, once again, a wide range of
3 materials and environments and the staff did not
4 invite any open items.

5 The steam and power conversion system
6 consists of the electro-hydraulic control system and
7 the main condenser system and once again, the staff
8 did not invite any open items.

9 If there are any questions -- if there
10 aren't any --

11 MR. GRIMES: Wait, wait, wait.

12 (Laughter.)

13 MR. GRIMES: This is Chris Grimes.
14 Carolyn scores extra credit for really moving right
15 along on the schedule.

16 MS. LAURON: Thank you.

17 (Laughter.)

18 MR. GRIMES: I just wanted to make sure
19 that the committee had ample opportunity. There were
20 a number of questions that you brought up in scoping
21 the screening and Mr. Barton's questions about the
22 crane hooks, the intake design, we've noted those and
23 we'll work to get answers on those, but are there any
24 other questions related to the Aging Management
25 Programs associated with --

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1 MR. BARTON: I didn't have any in that
2 area, Chris.

3 MR. GRIMES: Okay.

4 MR. BARTON: I don't know if the rest of
5 the committee did.

6 (Slide change.)

7 MR. ASHAR: I am Hans Ashar, Mechanical
8 and Civil Engineering Branch and I'm going to talk
9 about SER Section 3.6, Structures and Structural
10 Components. Thirteen structures/structural components
11 are included in this area. Originally, I believe we
12 had 46 open items in August of last year. The problem
13 more was navigation and where is what kind of a thing
14 more than anything else. I think we are left with
15 three open items now and out of three, I think two of
16 them we have closed them after you received your SER
17 copies and I am going to talk about those two and the
18 third open item is still open and it is one of the
19 appeal items.

20 Let me first talk about the items which
21 have been closed since you saw the SER. First item is
22 torus corrosion in which we requested applicant to
23 tell us as to where the torus penetrations are being
24 addressed and how the torus penetrations are being
25 managed as far as the aging is concerned. Again,

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1 partly integrational and partly informational
2 provided. There is enough Aging Management Programs
3 to cover the torus corrosion as well as the
4 penetrations within the torus corrosion and they
5 provided us with -- it's been a very nice drawing
6 which saved 10,000 words more or less saying that
7 which area is called by what Aging Management Program
8 below water, above water, so it was very descriptive
9 and that item was closed.

10 MR. LEITCH: Is the torus at Hatch, is it
11 coated? Does it have a zinc --

12 MR. ASHAR: The torus is coated, yes.

13 MR. LEITCH: And the inspection of that
14 coating is --

15 MR. ASHAR: It's part of the Coating
16 Management Program, yes.

17 MR. LEITCH: Okay.

18 MR. ASHAR: The second open item which we
19 closed was related to the gears, latches and linkages
20 which were mainly related to the access openings. Our
21 concern -- now this was also in parallel with a GALL
22 item and let me go into that. In GALL, we have the
23 same items being recommended as part of the GALL
24 evaluation. However, the basic reason why the
25 industry complained that hey, it is an active item and

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1 they're going to be monitoring during the opening and
2 closing of the doors and latches. The concern that we
3 had was because the outages, you know, during
4 operation of the plant, when anything can happen and
5 if they don't properly close and they go to aging,
6 what would happen to them? And I'm right now
7 referring to GALL and then we'll come back to Hatch
8 specifically.

9 In GALL, we resolved this item when the
10 safety reviewed a number of programs, particularly IS,
11 due to IWE, IS program and then Appendix J testing
12 during the time when they opened any equipment access
13 opening and they inspect them and they close it. They
14 go to 5B testing. So -- this particular answer is
15 that there are enough things there, so what we did
16 identify these three items such as IWE, IS, Appendix
17 J and but in the evaluation we said no, so far as the
18 programs is in effect. So on the same basis, we
19 closed the open item in Hatch.

20 Now the third item, this is still an open
21 item --

22 MR. LEITCH: Excuse me, there's a term
23 used in that discussion Nelson frames.

24 MR. ASHAR: Yes.

25 MR. LEITCH: I'm not -- it's a term I

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1 don't understand. What is Nelson frames?

2 MR. ASHAR: Nelson frames are -- you want
3 to expand on that?

4 MR. BAKER: The reactor building
5 penetrations for electrical conductors essentially
6 consist of a large structural frame with then inserts
7 that are used for the cables to penetrate through.
8 That entire assembly is commonly called a Nelson
9 frame.

10 MR. LEITCH: Okay, thank you.

11 MR. ASHAR: The third open item still is
12 open and it is related to the reactor building
13 controlled leakage characteristics. The applicant
14 argues that we got a very in-depth instruments
15 inspection requirements, structural monitoring and
16 looking at all the access doors and we are going to
17 make sure that on a periodic basis that the aging
18 management is being conducted.

19 However, the staff -- the secondary
20 containment building including the SGT, the standby
21 gas treatment system requires certain amount of vacuum
22 in the building in order to make sure that the SGT
23 will work or during an accident. And for that the
24 staff is insisting that there has to be some kind of
25 an Aging Management Program to make sure that the

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1 characteristics of the reactor building for secondary
2 containment is maintained, the way it is in the
3 current license.

4 MR. GRIMES: This is an appeal issue.

5 MR. ASHAR: I would like have some
6 thoughts from you too because it's going to be an
7 appealed and I would like some help or words from you
8 guys.

9 MR. BARTON: What, do you want a vote?

10 MR. ASHAR: No vote, but just your
11 opinions.

12 DR. BONACA: Well, clearly, we will be
13 looking at these things, but just because there is an
14 appeal, it seems to me that it's important we reflect
15 on that before we decide on one perspective or the
16 other. I think we need to see how the members feel.

17 MR. GRIMES: This is Chris Grimes. I'm
18 sure that you'll give us a reaction when we tell you
19 how we've disposed of the appeal issue.

20 (Laughter.)

21 DR. BONACA: That's right.

22 MR. LEITCH: I had a couple of questions
23 in that section. Yard structures, on page 3-180. I
24 wonder if that goes as far as the switchyard. I'm
25 thinking particularly about a transformer, tanks,

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1 circuit breaker tanks. Did the review go out into the
2 switchyard and were those types of tanks considered as
3 passive structures?

4 MR. ASHAR: I would defer to David Jeng.
5 Maybe he can -- he was the main coordinator in that
6 entire area.

7 MR. JENG: I am David Jeng. To answer
8 your question, I think the yard structures in our
9 section particularly covers the pad that anchors and
10 the structure support elements. As to the components,
11 the transformers, I think they should be covered
12 within the system. So we did not review the component
13 as I say, but we review the supporting anchors in the
14 frames and so on and make sure they are properly
15 married to aging effects.

16 MR. LEITCH: Okay, so the transformer
17 pads, so to speak --

18 MR. JENG: Anchor bolts.

19 MR. LEITCH: Anchor bolts.

20 MR. JENG: And supporting frames. These
21 are the things we talk about.

22 MR. LEITCH: Well, then is there someone
23 that can address the issue of transformer tanks and
24 circuit breaker tanks?

25 MR. GRIMES: I would suggest the applicant

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1 respond.

2 MR. BAKER: The scope of the electrical
3 part of the plant is at the 4160 volt level as it
4 comes into the plant from the supply from off-site.
5 As a result, the electrical switchyard that you're
6 referring to, none of the items in that electrical
7 switchyard are in scope at Plant Hatch.

8 Now the entire diesel generator building
9 and this includes the ability to supply the alternate
10 sources of AC, from there in is all in scope.

11 MR. LEITCH: Now is the switchyard not in
12 scope by definition or it's not in scope because it
13 doesn't meet the criteria?

14 MR. BAKER: We evaluated against the
15 criteria and it did not meet the criteria.

16 MR. LEITCH: Okay. I understand. And I
17 guess I have a similar question on the end of the
18 plant regarding the intake structures. Did any of
19 that thought go out into the river, I'm thinking of
20 silting that may occur over long periods of time or
21 changes in the characteristics of river flow, river
22 soundings and so forth.

23 MR. BAKER: As I recall, we addressed
24 siltation at the intake structure as a part of the
25 application.

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1 MR. LEITCH: And there is a program then
2 to sound that area periodically or how did that --

3 MR. BAKER: We send divers down.

4 MR. LEITCH: Okay.

5 MR. BARTON: Although the switchyard isn't
6 a scope, who owns the switchyard? Does the plant own
7 it or does something else in Southern Company own it?
8 The maintenance programs in the switchyard are
9 performed by who under what process, under what
10 program, under what procedures?

11 MR. PIERCE: I can check on that during
12 lunch, but I am reasonably certain that currently
13 today, the switchyard is being maintained by Georgia
14 Power Company.

15 MR. BARTON: Not the plant.

16 MR. PIERCE: Right.

17 MR. BARTON: And it's under Georgia Power
18 Company's procedures, processes, programs and not the
19 plant's?

20 MR. PIERCE: There are some elements of it
21 that I think the plant gets involved with, but I'll
22 have to check on that.

23 MR. BARTON: I'd like to know what the
24 plant's involvement is.

25 MR. BAKER: Just to follow up on that,

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1 this is an area that was discussed somewhat in the
2 environmental review part of the discussions as to who
3 performed the routine procedures for the switchyard
4 and for the transmission lines. So we have that.

5 DR. BONACA: I have a question regarding
6 the unit. Does the plant have a program to monitor
7 building settlement, if any? And at what point do you
8 feel that during the life of this plant settlement may
9 affect somehow structures or impingement on piping and
10 --

11 MR. BAKER: In the original licensing of
12 the plant, building settlement and differential
13 settlement between structure and soil was considered.
14 There were technical specification requirements to
15 monitor that. That monitoring showed that the
16 consolidation settlement was essentially complete by
17 the time construction was finished. There were some
18 concerns at one time regarding a possibility of
19 differential settlement between structure and soil at
20 the intake structure. There was some remedial actions
21 that were taken there. Subsequent to that there's
22 been no indication of any additional settlement
23 issues.

24 MR. JENG: This is David Jeng. I'd like
25 to supplement this answer. Settlement is a general

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1 issue. If the structures are in the scope in the
2 design CP, OL review has been reviewed and accepted to
3 determine to be adequate, there's no concern. In the
4 license renewal, we did not come across any special
5 concern from the standpoint of RAI.

6 DR. BONACA: Okay. I was more curious
7 than anything else. The other thing I would like to
8 do, by the way, we're close to the end of the Section
9 3 presentation. I would appreciate at some point if
10 the applicant could give us a very brief summary of
11 operating experience. If you look at the application
12 and then the SER, there is substantial information
13 provided in different sections regarding particularly
14 the operating experience for crackings and so on and
15 so forth, but it would be good for us to have a
16 feeling about what are the major issues that the
17 applicant is tracking right now that they consider,
18 they focus on mostly. So just for our benefit.

19 (Slide change.)

20 MR. BURTON: Just briefly, the next
21 section was 3.7, again electrical components. We
22 looked at 14 systems and again, we found that the
23 Aging Management Review and the Aging Management
24 Programs seemed to be appropriate to manage the aging
25 effects associated with this. The only issue which we

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1 had already talked about before was the additional
2 Aging Management Program that came into play for the
3 non-EQ cables. That's it.

4 MR. BARTON: Butch, I know yesterday in
5 the discussion in the electrical area, that electrical
6 cabinets were in scope, but switch gear was excluded
7 from aging management. Is there a logic for that?
8 What in switch gear is not -- is excluded from the
9 program?

10 MR. BURTON: Okay, this was part of
11 yesterday's discussion?

12 MR. BARTON: Yes, I believe so.

13 MR. BURTON: I probably need to call in
14 our electrical person. Paul? Paul Shemanski.

15 MR. SHEMANSKI: Paul Shemanski, Electrical
16 Branch. Basically, switch gear are excluded by the
17 rule.

18 MR. BARTON: Okay.

19 MR. SHEMANSKI: And the basis is that they
20 contain for the most part active components which are
21 --

22 MR. BARTON: How about the cabinets
23 themselves?

24 MR. SHEMANSKI: Well, the cabinets would
25 be in scope because they're the -- they would be in

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1 from a structural standpoint.

2 MR. BARTON: That's why I'm confused. You
3 talk about electrical cabinets in scope and switch
4 gear not in scope. When you talk about electrical
5 cabinet, how about a 4160 switch gear room that's
6 contained within a cabinet and you've got breakers and
7 dials and indicators and meters. Is the cabinet
8 itself an electrical cabinet that's in scope or not?

9 MR. SHEMANSKI: My understanding is that
10 the structural --

11 MR. BARTON: The cabinet that's bolted to
12 the concrete.

13 MR. SHEMANSKI: That would be in scope and
14 that would be evaluated for aging effects such as
15 corrosion, whatever else, but the internal components
16 --

17 MR. BARTON: I understand internal
18 components. They all move in something. I thought
19 the definition that was given, the description that
20 was given talked about breakers and switches,
21 etcetera, as not being in scope and I can understand
22 they're active components, but then it said switch
23 gear. I'll have to find it. It was in yesterday's --
24 it said switch gears excluded. I was trying to
25 determine what they meant by switch gear. Was that

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1 the cabinet itself and there's also electrical
2 cabinets are in scope. What's electrical cabinets?
3 Is that all motor control centers and switch gear, the
4 outer envelope, the housing so to speak or is it more
5 than that?

6 MR. SHEMANSKI: Basically the housing, the
7 structural cabinet would be in scope, the metal, okay,
8 the enclosure itself would be in scope, again, the
9 internals are out of scope because --

10 MR. BARTON: I can understand the
11 internal. I understand that.

12 MR. SHEMANSKI: But electrical cabinet,
13 panel, enclosure, that would be in scope and would be
14 evaluated for aging effects of corrosion, rust, that
15 type of thing.

16 MR. BARTON: Okay, thank you.

17 MR. BURTON: Okay, that's pretty much it
18 for section -- I'm sorry. That's pretty much it for
19 Section 3. Comments, questions?

20 DR. FORD: I have a much more general
21 question. A lot of your argument for the aging
22 managing, especially for environmental degradation
23 problems, based on the VIP documents which are
24 primarily deterministic based on data and you come up
25 with a deterministic upper bound, admittedly

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1 disposition curves. I haven't seen anywhere and I'm
2 talking from lack of knowledge because this is the
3 first time I've been on this committee, I've seen
4 very, very little reference to use of extreme value
5 statistics, bearing in mind that we're really
6 concerned about the first event. That's what's going
7 to kill us. So has this a place in all of these
8 evaluations?

9 When will a first event occur which is
10 going to kill us all?

11 MR. GRIMES: Somehow I have a feeling that
12 question is in my job description.

13 And I would emphasize that if you look
14 very carefully at the statements of consideration of
15 the license renewal rule, I think the industry
16 originally argued that -- we don't need to do anything
17 for license renewal by virtue of we've got regulatory
18 processes and look at operating experience and when
19 stuff breaks, we fix it and we've been doing that fine
20 for 25 years and let us have another 20 years.

21 The Commission concluded that while we've
22 got maintenance rule and we do have confidence in
23 active components because they break a lot and we've
24 got a large data base from which we can draw
25 reliability information. And it's that data base that

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1 led us into the maintenance rule and its requirements
2 in order to monitor very carefully the information
3 that's used to derive reliability and failure rates
4 and core damage frequencies and other information
5 that's used to try and be informed about risk. But
6 for passive things like the fracture toughness of the
7 vessel or sprawling -- did I say that correctly?
8 Spalling. Sprawling was probably Freudian in terms of
9 my vision of structural inspections.

10 (Laughter.)

11 But the Commission concluded that because
12 these are rare events, we do not have large -- we
13 don't have a large data base to draw on for the
14 failure rates of tanks and pump casings and structural
15 elements and they do not get challenged in the way
16 that they will be challenged if an accident occurs.
17 And for that reason we will look to ensure that there
18 are Aging Management Programs that are going to
19 monitor the condition that are going to identify when
20 applicable aging effects appear to the extent that
21 they jeopardize the intended safety functions.

22 So the entire focus of this review is
23 almost the inverse of your question and that is
24 because there is a lack of data and reliability values
25 associated with these functions, we concentrate on the

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1 inspection and maintenance practices that are relied
2 on in the current term and to what extent do they need
3 to be modified, adjusted or augmented for an extended
4 period of operation so that as new failures occur in
5 the future that there's a process in place that's
6 going to account for new information and adjust
7 according to aging effects in such a way as to
8 continue to maintain the condition of the system
9 structures and components so that we have reasonable
10 assurance that they'll perform their intended
11 functions for the period of extended operation.

12 Did that answer your question?

13 DR. FORD: Yes. You've been proactive, to
14 a certain extent proactive.

15 MR. GRIMES: Right.

16 DR. FORD: You're going to hope to see it
17 before it becomes --

18 MR. GRIMES: We're going to hope to see it
19 and if we haven't seen it we've got a process in place
20 that by through the corrective action process it will
21 reveal an aging effect that was not considered in this
22 revised licensing basis and then we would expect a
23 corrective action process to say we don't have a
24 procedure to manage this aging effect. Now we need
25 one.

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1 And I think that the issue is more clearly
2 illustrated in some of the industry comments on
3 Generic Aging Lessons Learned where you see these one
4 time inspections. They're aging effects that the
5 industry believes don't warrant an aging management
6 program, but at the same time they're not so out of
7 the question that we could simply dismiss them as not
8 applicable and in those cases, we've insisted on a
9 one-time inspection in order to provide a benchmark in
10 time that says is there any evidence that it's
11 occurring. if there is any evidence, then the process
12 will account for that.

13 DR. BONACA: Okay. Before we take a
14 recess for lunch, it will be interesting to us to hear
15 just a brief summary of the operating experience and
16 all you had, for example, cracked sparger. It wasn't
17 clear to me that you had both at Unit 1 and Unit 2.
18 You also had indication of -- so just a summary of
19 operating history and what is -- which is focusing
20 mostly on inspections right now?

21 MR. PIERCE: Yes, I think Robin could
22 probably answer some of the discussions on some of the
23 internals in operating experience. At a broader
24 level, we do have an individual that is calling down
25 at the plant to make sure that we give you the right

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1 information. So it might be better to do that right
2 after lunch and just go through the whole thing,
3 including what Robin has, if that's okay with you.

4 DR. BONACA: Okay, sure. No problem. And
5 again, remember I'm asking you for just a summary in
6 the application, interspersed in so many locations
7 operating experiences. At times you lose a little bit
8 sight of what are the major issues that right now we
9 are facing or you are concerned with. Some of them
10 seem to be disposition, once and for all, so that kind
11 of information.

12 MR. PIERCE: Right, and that's why we
13 wanted to go down to the plant and make sure that we
14 had a good understanding of they viewed the major
15 issues were for operating experience.

16 DR. BONACA: Okay, with that I think we'll
17 take a recess for lunch and I would like to start the
18 meeting at 1 o'clock. We don't need an hour. I have
19 to catch a plane pretty early, so why don't we just
20 start the meeting again at 10 of 1. Okay?

21 (Whereupon, at 11:57 a.m., the meeting was
22 recessed, to reconvene at 12:50 p.m., Wednesday, March
23 28, 2001.)
24
25

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(12:50 p.m.)

DR. BONACA: Okay, we're going to resume the meeting now and first of all, we will ask the licensee if they have received the information to give us a brief update. We don't need a lengthy one, just a summary.

MR. PIERCE: Okay, I think during lunch we worked on basically two questions. One was on Mr. Barton's issue on the switch yards and secondly the operating experiences.

Regarding the operating experience, I'm going to let Robin start and then turn it over here to Wayne Lunceford to continue with some of the switch yard discussion, I'm sorry, the operating experiences discussion. On the switch yards, I'm going to let Jim Mulvehill speak briefly to that.

MR. DYLE: This is Robin Dyle. You did mention the sparger and I guess the first thing that popped into mind which sparger.

So instead of going that path, I'll just discuss both of them. The core spray spargers, there has been an occurrence in Unit 1 years ago where there was IGSCC detected, a mechanical clamp has been put in place and that is inspected as part of initially the

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1 IEB 8013 inspections that were required and then when
2 we implemented VIP-18, VIP-18 replaced those
3 inspections. So we continue to do that.

4 Also, and I do not remember exactly when,
5 three to five years ago, there was actually a full-
6 flow functional test performed on core spray where
7 they injected through the sparger and looked at that
8 clamp before and after and looked at the general
9 conditions. So that's been evaluated.

10 In regard to -- Unit 1. Excuse me. In
11 regard to feedwater spargers and the feedwater nozzle
12 issue, we've been performing inspections in accordance
13 with NUREG-0619 for years. It had to do with the
14 thermal fatigue initiation of a flaw in the inner
15 radius and the propagation of that. Unit 1 was
16 originally a slip fit sparger. That was replaced with
17 the triple sleeve double piston sparger. Unit 2, as
18 the problem had been detected was still in
19 construction and it was replaced in the field with a
20 welded in-place sparger with a single thermal sleeve.

21 So those are the issue on the two
22 spargers. Since we've done the replacements and
23 implemented the NUREG-0619 program, we've had no
24 problems, nor has any other BWR in the industry, so we
25 believe that's been handled generically and that's

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1 addressed in some of the VIP documentation.

2 MR. BARTON: You said no other plant has
3 had a problem since when?

4 MR. DYLE: Since -- there was a series of
5 changes that were made as part of the NUREG-0619
6 process. Not only were spargers changed out, but in
7 some cases, spargers weren't changed, but operating
8 procedures were changed to minimize the effect of the
9 on-off flow of the cold feedwater, so you eliminated
10 the thermal cycling and the initiation mechanism at
11 the inner radius.

12 So there was a generic report that was
13 published. The staff has reviewed that and that's the
14 new position that all the BWRs use for inspection that
15 has shown that there has been no cracking throughout
16 the feedwater nozzles in 15 plus years.

17 In regard to other internals, we've
18 inspected the jet pumps. We've replaced the jet pump
19 beams and put in the newer heat treat versions so
20 we've got the newer generation jet pumps. We do the
21 inspections per the VIP. We have done inspections at
22 the top guide. We've seen no evidence of cracking.
23 As I mentioned yesterday, the only plant that has has
24 been Oyster Creek.

25 We did do a preemptive repair to the

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1 shroud as I've briefly mentioned. And that was an
2 economic decision where we knew the repair replaced
3 all the circumferential welds so instead of spending
4 the money to do that, we preferentially, from a
5 financial standpoint just installed the repair and now
6 inspect that on a routine basis consistent with the SE
7 that the staff provided.

8 We replaced access hole covers. There was
9 indications detected several years. We were not sure
10 they were IGSCC and the reason is you couldn't
11 actually track the indication to the water surface,
12 but plant management conservatively decided to remove
13 those and they've been replaced with mechanical
14 devices and we inspect those at a regular period also.
15 And I believe that's everything as far as the
16 internals and the vessel goes.

17 The mention was made of the open item, the
18 Integrated Surveillance Program. We're lucky there
19 because if the VIP Integrated Surveillance Program is
20 not implemented, Hatch 1 and 2 or 2 of the 7 plants
21 that were in the program, so we have capsules
22 available that we can withdraw. So we have a backup
23 available for that.

24 MR. LUNCEFORD: Wayne Lunceford, Southern
25 Nuclear. All I'm going to do is describe to you some

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1 of the general issues that the Plant Hatch is dealing
2 with right now regarding components that are in the
3 scope of license renewal.

4 The first one would be CRD cap screws or
5 control rod drive housings. Those are -- Hatch has
6 detected corrosion and stress corrosion cracking on
7 some of those cap screws. GE issued a SIL subsequent
8 to that. I don't recall the date or the number
9 suggesting an improved design, upgraded material, a
10 different washer design that doesn't college fluid
11 leakage so it tends to mitigate that type of
12 corrosion. Plant Hatch currently is replacing any CRD
13 cap screws with any sort of noted damage as they pull
14 out CRD drive housing at the replacement process, it's
15 in progress right now.

16 Second item, and probably the most
17 significant that the plant's dealing with is corrosion
18 and reduction of flow in plant service water piping.
19 Currently, this phenomena is restricted to small bore
20 piping. The failures we've seen are in 4-inch and
21 under lines. We have replaced some lines with 304 or
22 304L stainless steel an upgrade from the carbon steel
23 that was originally installed.

24 There have also been failures in plant
25 service water minimum flow lines, discharge lines due

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1 to corrosion and we've replaced some of those lines
2 with 304.

3 The failures in plant service water had
4 been in both safety-related areas of the plant and
5 nonsafety-related. I believe that's all I'll say
6 about that.

7 MR. BARTON: They were flow erosion
8 problems?

9 MR. LUNCEFORD: We have had both erosion
10 problems on the minimum flow lines off the plant
11 service water pump and discharge lines and we have had
12 corrosion problems in areas of low flow where under
13 deposit corrosion occurred and we have also had flow
14 blockage in drain lines.

15 DR. SHACK: This is erosion is essentially
16 a room temperature line?

17 MR. LUNCEFORD: Right. There is no -- it
18 is not FAC-related. It is simply an elbow, high
19 energy line flow rate going through a relatively small
20 line and it just tends to wear away the carbon steel.
21 We replaced those with stainless steel to mitigate
22 that problem.

23 It's happened in more than one of the
24 minimum flow lines.

25 DR. SHACK: How fast is this going?

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1 MR. LUNCEFORD: I don't know right off
2 hand. All I know is they had problems and replaced
3 them.

4 MR. BARTON: What was your question, Bill?

5 DR. SHACK: Just how fast was the flow
6 rate? I was zipping through?

7 MR. LUNCEFORD: It was obviously
8 significant enough to erode the carbon steel.

9 The next item for license renewal, a FAC
10 item would be a failure we've had in a HPCI, an RCIC
11 drain line downstream of the drain pipe. Steam supply
12 to the turbine, you've got a drain pipe. You've got
13 that line that's just going to the condenser. It's --
14 they have noted some FAC in that area and the response
15 was to include portions of RCIC and HPCI in the FAC
16 program.

17 It was originally excluded from the FAC
18 program based on low usage. Less than 2 percent usage
19 under normal operating circumstances. But we've
20 included that in. They don't model it, but they will
21 periodically go out and look at those areas that will
22 be most susceptible to FAC.

23 Torus corrosion. The inner shell of the
24 torus, there have been instances of minor corrosion
25 pitting on that surface where the originally installed

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1 inorganic zinc primer and coating has broken down. We
2 have an aggressive coatings program that currently not
3 only trends and tracks certain areas we've mapped out
4 on the torus shell to see the rates of pit depth
5 growth, the rates of corrosion, but we've also got an
6 aggressive program to desludge the torus, to recoat.
7 They're using an underwater epoxy coating right now
8 for repairs and are considering in the future what
9 they may have to do to ensure the long-term viability
10 of that coating.

11 MR. BARTON: Do you inspect that coating
12 every outage to your knowledge?

13 MR. LUNCEFORD: They inspect, I forget
14 which unit is which but currently, one unit is
15 inspected every outage with divers. The other unit,
16 due to reduced corrosion rates, that we observed, is
17 inspected only every other outage.

18 MR. BARTON: Why is the corrosion rate
19 different there? Is it different coating?

20 MR. LUNCEFORD: I believe that the Unit 2
21 is holding it better and it may be due to improved
22 water chemistry controls implemented. I don't know
23 that they've established exactly why that coating is
24 performing somewhat better.

25 Also noted, this was an issue that came up

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1 in a recent inspection for Aging Management Programs
2 at Plant Hatch was general corrosion in exposed areas
3 of the plant such as the intake structure, valve pits
4 for service water, the EDG building roof area where
5 the inspectors noted excessive rust on components,
6 supports, etcetera and the plant has made that an
7 issue to improve their identification and corrective
8 actions in those areas.

9 One other item I'll mention is
10 particulates in our diesel fuel tanks. There have
11 been instances of high particulates above the 10
12 milligram per liter limit required by tech specs and
13 those were all properly corrected by filtration or
14 draining, cleaning the tanks and the plant is pursuing
15 what methods they need to ensure that reduced
16 occurrences of high particulate in those tanks.

17 I believe that is all the current items
18 identified.

19 MR. BARTON: Back to service water or
20 erosion problem you had.

21 MR. LUNCEFORD: Yes sir.

22 MR. BARTON: Did your erosion/corrosion
23 program pick it up or was it a failure that led you to
24 discover it?

25 MR. LUNCEFORD: Service water, the service

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1 water line, if you're talking of the FAC program.

2 MR. BARTON: Whatever you use for
3 erosion/corrosion program. Is that pick it up or did
4 you have a piping failure, an actual leak and then you
5 found out you had a problem?

6 MR. LUNCEFORD: It is not an
7 erosion/corrosion problem per se. It's simply an
8 erosion problem. If you look at it from FAC --

9 MR. BARTON: But don't you have a program
10 in place that looks for that kind of stuff and picks
11 out susceptible areas or potential areas that you
12 could have this problem? Don't you have a program
13 like that?

14 MR. LUNCEFORD: Correct, that's our plant
15 service water piping inspection program. I do not
16 believe they identified all of those failures prior to
17 leakage.

18 MR. BARTON: Prior to, okay.

19 MR. LUNCEFORD: Once they --

20 MR. BARTON: What makes you have
21 confidence that the program is effective? What
22 confidence do you have in your erosion program that
23 it's effective? If you're finding failures --

24 MR. LUNCEFORD: The service water
25 inspection program, one line was identified, they

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1 implement inspections of the other lines, trended
2 those corrosion rates and the engineer at the site who
3 is responsible for that, actively goes out and tries
4 to identify. If they do identify a failure, he will
5 review other areas of the plant where similar
6 materials, environments could exist and we include
7 those in routine inspections.

8 DR. SHACK: But that's not included in
9 what you call your FAC program?

10 MR. LUNCEFORD: That is correct. It's
11 covered by the plant service water inspection program.

12 DR. SHACK: In other words, they really
13 didn't expect it.

14 MR. BARTON: I gotcha.

15 MR. LUNCEFORD: It's not FAC is the point.

16 DR. SHACK: A rose by any other name --

17 (Laughter.)

18 MR. BAKER: I think the point we're
19 making, the distinction is, there's an industry
20 program that might get confused with that in terms of
21 the scope.

22 MR. LUNCEFORD: That's all I have unless
23 there's any other questions.

24 DR. UHRIG: Question.

25 MR. LUNCEFORD: Yes sir.

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1 DR. UHRIG: Are the two plants identical,
2 even though they're several years difference?

3 MR. LUNCEFORD: No.

4 DR. UHRIG: What are the substantial
5 differences?

6 MR. LUNCEFORD: I'll let Ray address that.

7 MR. BAKER: Unit 2 has a hydrogen
8 recombiner associated with containment. Unit 1 does
9 not rely on hydrogen recombiner. That's one
10 difference.

11 DR. UHRIG: Well, of course, those kinds
12 of things, but in general, the types of systems are
13 very similar.

14 The same power level.

15 MR. BAKER: Yes.

16 DR. UHRIG: Are you involved in this large
17 PWR upgrade program?

18 MR. BAKER: We have done the extended
19 power upgrade on both units.

20 DR. UHRIG: You've already done that?

21 MR. BAKER: Yes. Thank you.

22 MR. MULVEHILL: Jeff Mulvehill, Southern
23 Nuclear. Changing the subject to switchyard and
24 maintenance. The plant is involved with monitoring
25 and minor maintenance of switchyard components inside

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1 the protected area fence. Any large item of
2 maintenance such as replacement of a transformer would
3 be a joint effort between Georgia Power Company and
4 the plant people.

5 Inside the protected area fence, changes
6 to the switchyard are controlled by the design change
7 process there so and once you get beyond that fence
8 into the transmission line area coming in and so
9 forth, that's pretty much all Georgia Power.

10 MR. BARTON: What control do you have over
11 the work they do in the switchyard?

12 MR. MULVEHILL: If they're working under
13 a PCR, a design change request, they would have to
14 follow the procedures that the --

15 MR. BARTON: Station procedures?

16 MR. MULVEHILL: Right.

17 DR. BONACA: Thank you. All right, then
18 let's move on now to the Time-Limited Aging Analysis.

19 MR. BURTON: This is Butch Burton again.
20 I'm going to turn it over to John Fair from the staff
21 to discuss the TLAAs.

22 (Slide change.)

23 MR. FAIR: Good afternoon. I'm going to
24 go over the areas that were identified as
25 Time-Limited Aging Analyses at Plant Hatch and I'm

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1 going to discuss the open items that we have in the
2 draft SER.

3 The first section is in the identification
4 of TLAAs and we have two open items. The first open
5 item involves the fatigue analysis of components. In
6 the application, the applicant identified TLAAs for
7 the reactor vessel and for the reactor coolant lube
8 piping, but did not identify other major reactor
9 coolant system components as TLAAs and did not
10 identify the reactor vessel internals as a TLAA.

11 The staff reviewed the Hatch FSAR,
12 identified that the reactor vessel internals had been
13 discussed and a fatigue evaluation of the internals
14 was identified in the FSAR so that we ask a question
15 as to why this was not identified as Time-Limited
16 Aging Analysis.

17 The response to our question was that the
18 criteria of the vessel internals program, VIP-74 were
19 used to identify items that are TLAAs. We really
20 didn't understand what that meant in terms of
21 response, so we held this as an open item and maybe
22 some misunderstanding in the terminology, but since
23 there isn't an identified fatigue evaluation of at
24 least the internals, we want to know how that was
25 dispositioned.

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1 And the second item there was really just
2 a catch all, in case there's some other component that
3 there was a fatigue evaluation. We don't know from
4 review of the FSAR whether there are. But we'd like
5 the applicant to identify if there's any other
6 components they did fatigue evaluations on and how
7 they dispositioned those.

8 The second open item in the identification
9 TLAAs is one of the items of contention and that's the
10 high-energy line break postulation based on fatigue
11 cumulative usage factor. Again, the staff believes
12 this meets the definition of a TLAA per the 54.3
13 criterion and the licensee's response was that they
14 just used this criterion to select break locations and
15 they really didn't consider it a Time-Limited Aging
16 Analysis.

17 This particular item was identified as a
18 potential Time-Limited Aging Analysis, this high
19 energy line break postulation based on cumulative
20 usage factor. In the statement of considerations of
21 the rule, it's in the draft SRP as an item where
22 there's a potential TLAA and I believe there was even
23 an industry comment in the fatigue section of the SRP
24 that this item should be identified as a potential
25 TLAA. So we're still holding this open as TLAA and

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1 want to have a discussion on how we're going to
2 resolve the issue with the licensee.

3 DR. BONACA: Are these under appeal?

4 MR. FAIR: This is an item that's under
5 appeal.

6 DR. BONACA: Not the second one?

7 (Slide change.)

8 MR. FAIR: Yes, the second one. The
9 second item is under the fatigue analysis issue and
10 really the heading in the license renewal application
11 is pipe stresses, the way the applicant has labeled
12 this. And the open item really is the resolution of
13 environmental fatigue issue or the GSI-190 issue.

14 In response to the staff concern on this
15 item, the licensee has referred to generic EPRI
16 studies that were performed previously to try to
17 address this generically for BWRs. The open item that
18 we have is really the applicability of these
19 particular generic studies to specific locations at
20 Hatch and we have on-going discussions, I believe, we
21 anticipate with them to try to resolve this issue.

22 MR. DYLE: If I could, John, just one
23 thing to add to that. This is Robin Dyle. Not only
24 are we working that between Hatch and the staff, this
25 is also a generic issue that we're trying to work this

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1 particular resolution of environmental assisted
2 fatigue with the MRP, so we're trying to develop not
3 only the Hatch specific, but also a generic position,
4 that others could use and this is on-going dialogue.

5 (Slide change.)

6 MR. FAIR: The next ones are just -- I'll
7 go over the items that were in the license renewal
8 application, briefly, but there were no open items
9 identified. The first one was a corrosion allowance.
10 There were some specific piping systems that they had
11 evaluated for corrosion and they went back and
12 dispositioned those.

13 Environmental qualification, again, they
14 dispositioned those. We had no open items. And they
15 did have a calculation on containment pressurization
16 cycles, a fatigue evaluation which they went back and
17 dispositioned.

18 (Slide change.)

19 MR. FAIR: The next area was the reactor
20 vessel and really there were a number of subitems
21 under this, but the issue is the effect of neutron and
22 irradiation embrittlement and one of the various items
23 listed under this. And there were no open items again
24 identified under this.

25 (Slide change.)

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1 MR. FAIR: The last item was an
2 interesting item. This is main steam isolation valve
3 operating cycles. This was originally identified as
4 a TLAA by the applicant because they had specified in
5 the FSAR a number of cycles. They went back and
6 reconsidered.

7 They had put this number in a design
8 specification, but did not have the actual basis of
9 why it needed to meet this number of cycles, so they
10 decided this really doesn't constitute a TLAA and that
11 they do have on-going programs to refurbish these
12 valves and restore them. So we accepted that
13 resolution and there's no open item on this.

14 MR. BARTON: Is this handled through the
15 LLRT program and overhaul is needed?

16 MR. PIERCE: That's one of the programs,
17 that's correct.

18 MR. BARTON: What's the other one?

19 MR. PIERCE: There is a number of
20 individual activities that are done on the MSIVs that
21 I'd have to go back and refresh my memory on, but
22 everything to tech spec., routine tech spec.
23 surveillance, in terms of operating, testing, testing
24 the valves for closure time and so forth are part of
25 it as well.

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1 MR. BARTON: Okay. I understand.

2 MR. FAIR: And that was the extent of the
3 time-limited aging analyses done by the applicant.

4 DR. BONACA: Are there specific questions
5 from the members?

6 What I'd like to do is to ask Mr. Grimes
7 to give us a summary of the five issues that will be
8 appealed tomorrow?

9 MR. GRIMES: I think it's four.

10 DR. BONACA: I thought it was five.

11 MR. GRIMES: I'll go back and enumerate
12 the issues that are on the agenda for the meeting that
13 we're going to hold tomorrow.

14 DR. BONACA: Okay.

15 MR. GRIMES: But rather than summarize
16 them which I think is the purpose of the meeting that
17 we're going to have tomorrow, I would suggest that
18 we'll be able to better articulate what the nature of
19 the dispute is after we've had an opportunity to sit
20 down with the applicant and compare notes. And just
21 going through the agenda for -- the reactor building
22 leakage, the use of the drawdown tests.

23 DR. SHACK: Chris, on that one, they have
24 a tech spec., right, so they have to test for that?

25 MR. GRIMES: Yes.

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1 DR. SHACK: And you want an Aging
2 Management Program as well as the inspection program
3 and the test?

4 MR. GRIMES: No. The issue, as best as I
5 can characterize it, without prejudice to my position
6 as judge and jury tomorrow, the applicant conducts
7 inspections of the secondary containment and they go
8 around and they check the condition of the
9 penetrations. They have access controls to make sure
10 that doors are closed when they're supposed to be
11 closed. They check all of the individual parts of the
12 building in order to make sure that the building is
13 standing up properly.

14 But they also perform a tech spec required
15 draw-down test to demonstrate the leakage integrity of
16 the secondary containment as a secondary containment.
17 The staff wants the leakage test to be included as an
18 element of the aging management program and the
19 applicant argues that's an unnecessary regulatory
20 burden because the inspection of the individual
21 component should be sufficient for the purpose of the
22 aging management purposes. I think I've fairly
23 characterized the nature of the issue. Details to be
24 explored tomorrow.

25 The second issue is seismic II/I and that

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1 gets to the design basis for nonsafety stuff that
2 could fall and prevent safety-related functions. The
3 applicant has designed seismic supports for the
4 nonseismic piping and the staff has said that the
5 piping could fail so the piping needs to be included
6 in the scope as well as the supports. And so we'll
7 need to explore the extent of that scoping issue.

8 Pipe break criteria is a time-limited
9 aging analysis. There are -- the piping has a fatigue
10 design and there's a fatigue analysis that's
11 identified as the Time-Limited Aging Analysis, but
12 there are also analyses that are performed to look at
13 crack growths rates as it relates to where you
14 postulate pipe breaks and so the pipe break criteria
15 as a separate Time-Limited Aging Analysis is going to
16 be discussed.

17 And then, of course, the general question
18 about housings as separate passive functions of active
19 components. And that generally applies to all HVAC
20 systems.

21 So those are the four issues that are in
22 dispute that are going to be discussed in an appeal,
23 but as John Fair pointed out, the rest of the open
24 items we think that there's a course of resolution and
25 we understand what information needs to be exchanged,

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1 but that still needs to be verified. Our ability to
2 be able to close all the open items and prepare a
3 final safety evaluation in accordance with the
4 schedule that Butch showed you earlier will still be
5 monitored very carefully.

6 MR. BARTON: The housing issues on HVAC
7 systems plus standby gas treatment, right?

8 MR. GRIMES: Yes sir.

9 DR. BONACA: Thank you.

10 MR. GRIMES: I would point out and I'm not
11 sure that we can promise that the results of
12 tomorrow's meeting will be a sufficient basis for us
13 to be able to tell you what the answer is by the time
14 that we get to the full committee. And so we'll need
15 some guidance from the subcommittee in terms of what
16 material you want presented for the full committee
17 meeting on April 5th.

18 DR. BONACA: Well, what I would like to
19 ask you to do is to by some means to gather --
20 depending on how the meeting goes tomorrow, and what
21 the closure on the items are, probably no closure, but
22 progress and clarification and making available to the
23 members say by Friday, if you could.

24 And then I would like to have the members
25 review these issues, what happens tomorrow and give me

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1 by e-mail to pass out to me during the weekend your
2 thoughts. I would appreciate that because I think
3 I'll try to put together these comments and then bring
4 them back next week for our use so we can discuss
5 them, look at our perspectives and then be ready then
6 for the presentations we receive from the staff and
7 the licensee next week.

8 Okay, we may decide not to express an
9 opinion or we may have an opinion at that point that
10 we can express, but certainly that becomes an issue of
11 agenda next week and you bring a position on the
12 staff. We will consider commenting on those. So that
13 would be helpful for me as a member to send me their
14 perspectives on these issues, once we get the
15 information from the staff.

16 With that, I believe we have completed the
17 presentations. I'm just asking now if there are any
18 other comments or questions. I see none.

19 So what I would like to do now is to go
20 around the table and see if any one of the members has
21 any comment at this stage regarding what we have seen.

22 We have reviewed the application. We
23 heard the support provided by the BWRVIP program to
24 this application and so I would like to gather your
25 thoughts, if you have any this stage.

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1 Bill, we'll go in this direction.

2 DR. SHACK: No. You know I don't see any
3 major stumbling blocks here. There are a number of
4 open issues to be resolved. I would say that I found
5 their approach to putting together the report to be
6 more confusing, for example, than the last example we
7 saw at ANO 1. The information may be there, but it
8 just was more difficult to access. I really did sort
9 of miss the Appendix B compilation which I thought was
10 a very nice feature of the ANO 1 license renewal. If
11 I see license renewals again I sort of hope they look
12 like that.

13 DR. BONACA: Okay. Graham?

14 MR. LEITCH: No, I don't really have
15 anything to add except to echo Bill's comment that I
16 did find I guess the word we're using is the
17 navigation a little difficult, but I think now that I
18 understand a little more clearly the layout of the
19 report, I think it's quite understandable. It was
20 just somewhat confusing to me without some of the sort
21 of tutorial we've had today.

22 DR. BONACA: John.

23 MR. BARTON: Well, I don't see any show
24 stoppers, but I've got some concerns. I think I'm not
25 going to be at the full committee meeting, but I think

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1 the committee ought to hear the results of the staff's
2 looking into some of the questions that we raised and
3 the committee ought to be satisfied that those
4 components are, in fact, covered by the Aging
5 Management Program or not and also I think we ought to
6 weigh in on where we stand on the issues that are up
7 for appeal, whether we've got a strong position one
8 way or another on that.

9 But as far as overall the application, I
10 think, the committee gets satisfied with those and the
11 answers that the staff will provide the full committee
12 meeting. I don't see a problem overall.

13 I think it was a harder process to review.
14 Took a lot more time to review it because you try to
15 figure out where were things that you had seen before
16 or located in this application and from a technical
17 standpoint, it's not detrimental. It's just from an
18 administrative standpoint it was harder.

19 DR. SHACK: We'll charge them for it.

20 (Laughter.)

21 MR. GRIMES: I wish you'd be careful with
22 that. There is a fees issues on this plant as well.

23 (Laughter.)

24 MR. BARTON: Oh yeah?

25 DR. FORD: My main concern as I said

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1 earlier on was the whole question of the conservatism
2 or otherwise, the disposition curve, and the process
3 was compliant enough to take into account new data, if
4 and when it becomes available.

5 I'm satisfied that that compliance is
6 there.

7 DR. BONACA: Tom?

8 DR. KRESS: I agree with the comments on
9 navigating through the documents and I agree with John
10 Barton that we need to express our opinion, whatever
11 it turns out to be on these appeal issues. I'm
12 particularly interested in two of those, the reactor
13 building leakage issue and the question of what
14 constitutes passive versus active in terms of
15 housings. I think there may be a need for some
16 clarification of that and this may be a chance for the
17 staff to clarify what the passive component really is.

18 I didn't see any major show stoppers and
19 I also found that BWRVIP documents provide a pretty
20 good basis for referencing and I thought those were
21 pretty good documents, at least the ones we've
22 reviewed.

23 So that's about all I had.

24 DR. BONACA: I could pretty much echo the
25 same comments. On the issue of navigation,

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1 navigating, that's why yesterday also, when we were
2 talking about a generic approach, I felt that the
3 earlier applications where you had scoping system and
4 then the screening doggedly going to the outcome. It
5 was really helpful in the review process and helping
6 people to understand on their own without searching.

7 So what I would consider the scrutability
8 of the documentation that allows for the public as I
9 said yesterday, we are the public in many ways, to
10 feel the confidence that we know this stuff has
11 reached a position if the audits hadn't taken place
12 and you found that in fact the methodology was
13 implemented as stated.

14 So I do believe that not specifically on
15 the Hatch application, but maybe on the others, we may
16 express some preference in that sense or direction in
17 that the next applications have the opportunity to be
18 clear or less clear.

19 I also have some -- I feel we need to
20 express an opinion on these open issues because those
21 are issues we have reviewed for other plants. I mean
22 clearly, we looked at II/I. I thought we had looked
23 at those at casing components. You're right. We
24 would not have looked at them. I assume that they
25 were being treated just like equipment on skids. But

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1 there's a need for clarification on that particular
2 issue. In the context, I still feel, that's personal
3 opinion that the rule specifically talks about passive
4 components and active components and not inactive
5 systems. But --

6 DR. SHACK: It looks a lot like an
7 electrical cabinet to me.

8 DR. BONACA: Yes. So I think we should be
9 open about resolution that there will be reached on
10 this. I think we should look at them positively also
11 because they're going to bring resolution to some
12 issues on a generic basis and they're going to help
13 finalizing the guidance documents that we have and
14 making it easier for the industry.

15 And certainly we will look for answers to
16 the questions that John raised and for which we have
17 no answer. They were good questions. Good questions
18 particularly because they give us some feeling about
19 the scoping issue for which we have various questions.

20 I would like to just briefly now ask the
21 members about what we should ask the staff to present
22 next week. There is a limited amount of time there.

23 MR. BARTON: Bob wasn't here when you
24 asked the question.

25 DR. BONACA: Yes.

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1 MR. BARTON: How much time is on the
2 agenda?

3 DR. BONACA: Oh, I didn't see a question.
4 We skipped you.

5 DR. UHRIG: I was out.

6 DR. BONACA: Okay.

7 DR. UHRIG: I don't have anything of major
8 concern. I spent most of my time concentrating on the
9 electrical components and I see those resolved,
10 essentially the same as the previous plants have been
11 and it's satisfactory.

12 DR. BONACA: Right. Yes.

13 MR. DURAI SWAMY: Did somebody ask a
14 question of how much time we've got? We've got two
15 hours, scheduled for the agenda.

16 But that's for both the staff and --

17 MR. BARTON: And the applicant.

18 DR. BONACA: And the BWRVIPs. We have to
19 be parsimonious about how we spend the time.

20 DR. KRESS: That includes the BWRVIPs,
21 that two hours?

22 DR. BONACA: Well, we're not going to have
23 a specific view of those. We're simply going to
24 discuss the part of how they support particularly the
25 internals and the vessels, some of the TLAAs and the

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1 other inspections.

2 MR. DURAISWAMY: I don't think we're going
3 to spend too much time on that thing, Tom. I think
4 primarily we're going to spend most of the time, I
5 think I split them between the applicant and the
6 staff. So now we've got to get on about the agenda.

7 DR. SHACK: You'd better let Gene
8 Carpenter know that.

9 MR. DURAISWAMY: Gene knows that. We told
10 him yesterday, unless he was sleeping.

11 (Laughter.)

12 MR. GRIMES: Actually, this is Chris
13 Grimes. In Gene's defense, we were hoping to convince
14 you to let Robin do 25 of the 30 minutes allotted for
15 VIP and Gene could have the last 5.

16 You mentioned yesterday about half an
17 hour's worth of VIP. I would also suggest that you
18 look at the way that you treated the BWR topical
19 reports for the Oconee review as a model of what the
20 desired outcome looks like.

21 DR. UHRIG: Are you going to spend time on
22 the results of the appeals?

23 DR. BONACA: Yes. It seems to me that the
24 first thing we need to talk about, the scoping and
25 screening because this has been probably one of the

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1 places where we had some difficulty in reviewing, not
2 because there is anything wrong with that
3 fundamentally, but because we had some trouble with
4 that issue. Then, I think we need to understand the
5 open issues as a summary with specific focus on those
6 which have been appealed right now, understanding that
7 others may be appealed in the future. That doesn't
8 preclude that.

9 But right now those are the ones on the
10 table. So and then I think we need to, as we talk
11 about TLAA or even management programs to see how the
12 BWRVIPs fit. That will be the half hour dedicated to
13 that. It will be interesting to have again the
14 perspective on how one-time inspections and the new
15 problems have gone from application to application.

16 MR. BARTON: You need the mike.

17 DR. BONACA: Sorry, how they have gone
18 from application to application, so we have an
19 understanding of how that is evolving as we come
20 closer to final documentation of GALL.

21 MR. GRIMES: Dr. Bonaca, if I could
22 suggest, we've committed to provide you with the cross
23 cut of one-time inspections for the following session
24 on improved renewal guidance.

25 DR. BONACA: Okay.

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1 MR. GRIMES: So I would suggest for the
2 purpose of the full committee meeting on the Hatch
3 application, that if we could have the applicant
4 simply decide on how they want to account for what's
5 existing, what's modified, what's new in a very broad
6 way.

7 DR. BONACA: Exactly, and only as it
8 fairly relates to Hatch.

9 MR. GRIMES: Correct.

10 MR. GRIMES: Okay, good. I think that if
11 you include all those items you pretty much will run
12 out of time, so my suggestion is to stay with that and
13 with whatever else you feel you want to communicate to
14 us at that point and that goes for both the staff and
15 the applicant.

16 MR. LEITCH: Maybe you mentioned this,
17 Mario, but I think Butch's slide that's labeled
18 overview, the four important distinctions, first BWR,
19 first use of the BWRVIP program, functional approach
20 versus systems approach, that slide, I think --

21 DR. BONACA: It's a good introduction.

22 MR. LEITCH: That's a good introduction,
23 exactly.

24 DR. BONACA: One thing that I suggest is
25 if the applicant finds a way to fit it in, the brief

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1 communication he gave us on the experience of the
2 plants I think was very important because I mean it
3 told us a pretty good story about the plants and the
4 recent history of travel and the plants and a good
5 history and so -- I think also that slide we saw
6 yesterday where the capacity factor has improved so
7 significantly through the years, I think is a
8 demonstration that the initiatives of the BWRVIPs have
9 been effective.

10 The other point we have noted yesterday in
11 the presentation was that this is not only one plant
12 operating and gathering information, but is three
13 plants, before including maybe including foreign
14 plants.

15 So therefore, there is substantial
16 experience being gathered of every year that is really
17 applicable to every plant out there, so that gives a
18 lot of additional confidence in the BWRVIP. I would
19 probably present that point as part of the BWRVIP
20 element to the presentation.

21 Any other thoughts? So if I remember now
22 next week is going to be practically the whole morning
23 first of all on Hatch and then --

24 MR. DURAISWAMY: First two hours, 8:35 to
25 10:30 on Hatch and then go the license --

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1 DR. BONACA: Okay. Any other comments or
2 questions for the members? Comments or questions from
3 the public?

4 None, the meeting is adjourned.

5 (Whereupon, at 1:37 p.m., the meeting was
6 concluded.)
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CERTIFICATE

This is to certify that the attached proceedings
before the United States Nuclear Regulatory Commission
in the matter of:

Name of Proceeding: ACRS PLANT LICENSE RENEWAL

Docket Number: (NOT APPLICABLE)

Location: ROCKVILLE, MARYLAND

were held as herein appears, and that this is the
original transcript thereof for the file of the United
States Nuclear Regulatory Commission taken by me and,
thereafter reduced to typewriting by me or under the
direction of the court reporting company, and that the
transcript is a true and accurate record of the
foregoing proceedings.



Rebecca Davis
Official Reporter
Neal R. Gross & Co., Inc.

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
PLANT LICENSE RENEWAL SUBCOMMITTEE MEETING
EDWIN I. HATCH LICENSE RENEWAL APPLICATION
MARCH 28, 2001
ROCKVILLE, MARYLAND

- AGENDA -

<u>TOPIC</u>	<u>PRESENTER</u>	<u>TIME</u>
I. Opening Remarks	M. Bonaca, ACRS	8:30-8:35 a.m.
II. Staff Introduction	C. Grimes, NRR	8:35-8:45 a.m.
III. Overview of SER Related to Hatch License Renewal	W. Burton, NRR	8:45-9:15 a.m.
A. Background		
B. Comparison to Previous PWR License Renewal Applications		
IV. Southern Nuclear Operating Company, Inc., Presentation	R. Baker, SNC	9:15-10:15 a.m.
A. Background		
B. License Renewal Application Scoping and Screening Process (IPA)		
C. Aging Effects		
D. Aging Management Programs		
E. Time Limited Aging Analyses		
- BREAK -		10:15-10:30 a.m.
V. SER Section 2.0 - Structures and Components Subject to an Aging Management Review	W. Burton, NRR	10:30-11:15 a.m.
VI. SER Section 3.0 - Aging Management Review	NRR Staff	11:15-12:15 p.m.
- LUNCH -		12:15-1:15 p.m.
VII. SER Section 4.0: Time-Limited Aging Analyses	J. Fair, NRR	1:15-2:15 p.m.
VIII. Discussion	M. Bonaca, ACRS	2:15-2:45 p.m.
IX. Adjourn	M Bonaca, ACRS	2:45 p.m.

NOTE: Presentation time should not exceed 50 percent of the total time allocated for specific item. The remaining 50 percent of the time is reserved for discussion. Number of copies of the presentation materials to be provided to the ACRS - 25.

ACRS License Renewal Subcommittee Meeting

Plant Hatch Units 1 & 2 License Renewal Application

Charles Pierce - License Renewal Manager
Ray Baker - Hatch Project Manager
March 28, 2001



Energy to Serve Your World™

PLANT HATCH LICENSE RENEWAL APPLICATION

◆ Background

Charles Pierce

◆ Application

Ray Baker

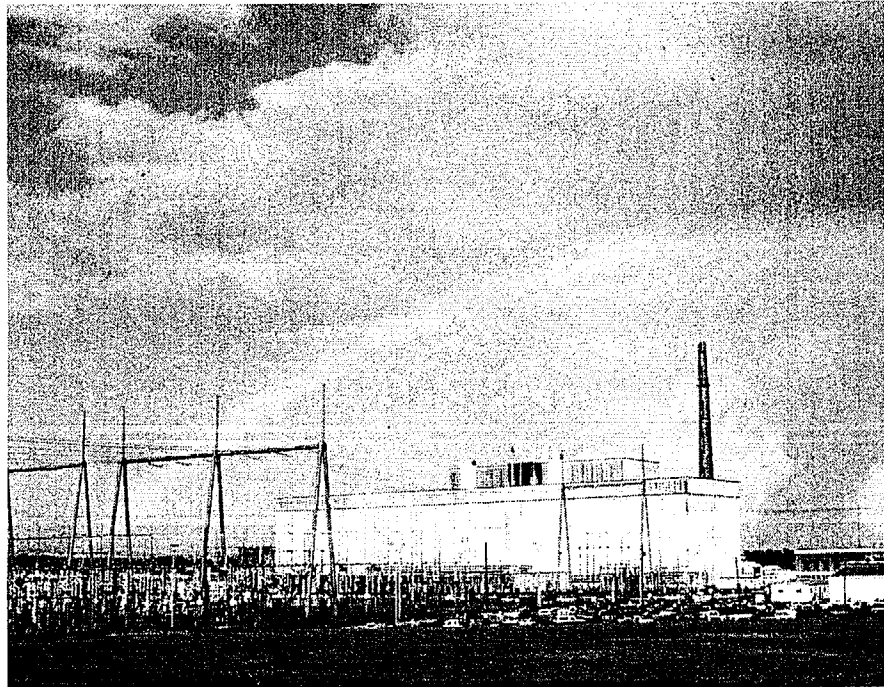
- License Renewal Scoping and Screening Process
- Aging Effects
- Aging Management Programs
- Time-Limited Aging Analyses



PLANT HATCH LICENSE RENEWAL APPLICATION

BACKGROUND

- ◆ Plant Hatch is located near Baxley, Georgia and is operated by Southern Nuclear
- ◆ GE BWR-4 Mark I
- ◆ 2736 MWt; ~910 MWe
- ◆ Current license expirations - 2014 and 2018
- ◆ First BWR to submit a renewal application



PLANT HATCH LICENSE RENEWAL APPLICATION

BACKGROUND (Continued)

- ◆ **Aggressively pursued initiatives to improve the process**
 - First utility to file an electronic linked application and drawings
 - Developed alternate format for NRC consideration
 - Worked with NRC to implement early version of draft standard format
- ◆ **Followed and implemented relevant lessons learned from BG&E and Duke programs**
- ◆ **Conducted a week-long peer review with industry experts**

PLANT HATCH LICENSE RENEWAL APPLICATION

APPLICATION FORMAT

- ◆ **Section 1 - General Information**
- ◆ **Section 2 - Structures and Components Requiring an Aging Management Review**
- ◆ **Section 3 - Aging Management Review Results**
- ◆ **Section 4 - Time-Limited Aging Analyses**
- ◆ **Appendix A - Final Safety Analysis Report Supplement**
- ◆ **Appendix C - Identification of Aging Effects and Aging Management Review Summaries**
- ◆ **Appendix D - Environmental Report Supplement**
- ◆ **Appendix E - Technical Specification Changes**



PLANT HATCH LICENSE RENEWAL APPLICATION

LRA SCOPING AND SCREENING

- ◆ **Safety-Related Criteria - 10CFR54.4(a)(1)**
 - Engineering and licensing documents were used in the identification of safety-related functions
- ◆ **Nonsafety-Related Criteria - 10CFR54.4(a)(2)**
 - Engineering and licensing documents were used in the identification of nonsafety-related functions



PLANT HATCH LICENSE RENEWAL APPLICATION

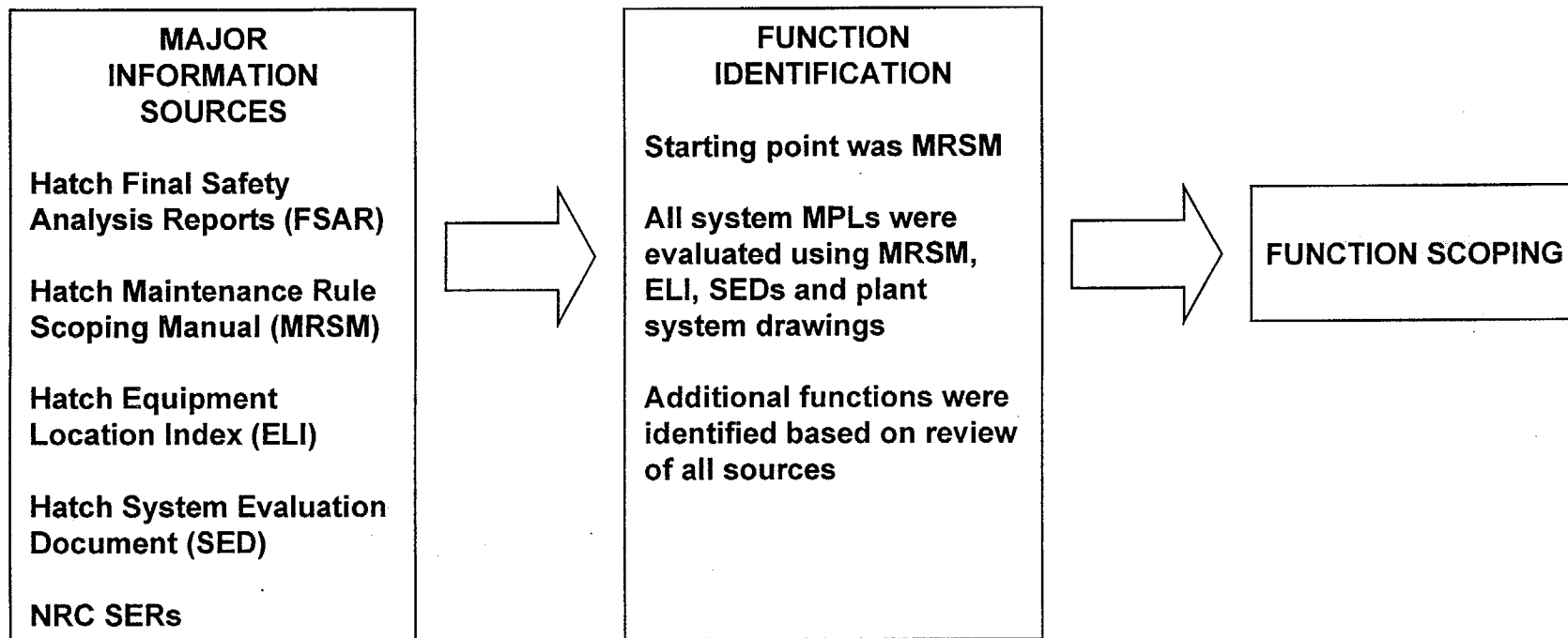
LRA SCOPING AND SCREENING

◆ Other Criteria - 10CFR54.4(a)(3)

- SNC used NRC SERs and docketed correspondence in the identification of functions relied on for compliance with certain regulations
- In-house issue specialists reviewed the functions for an independent confirmation that functions relied on for compliance with the regulations were identified

PLANT HATCH LICENSE RENEWAL APPLICATION

LRA SCOPING



PLANT HATCH LICENSE RENEWAL APPLICATION

LRA SCREENING

EVALUATION BOUNDARY SCREENING

Screen each boundary for the following:

- Identify each component within the boundary
- Group like components into component groups based on
 - material composition
 - external environment
 - internal environment
- Active/passive determination (e.g., NEI/NRC agreed list in NEI 95-10)
- Long/short lived determination
- Identify applicable component functions for components within the evaluation boundary

Consolidate Component Groups into Commodities

AGING MANAGEMENT REVIEWS



PLANT HATCH LICENSE RENEWAL APPLICATION

Systems
Structures

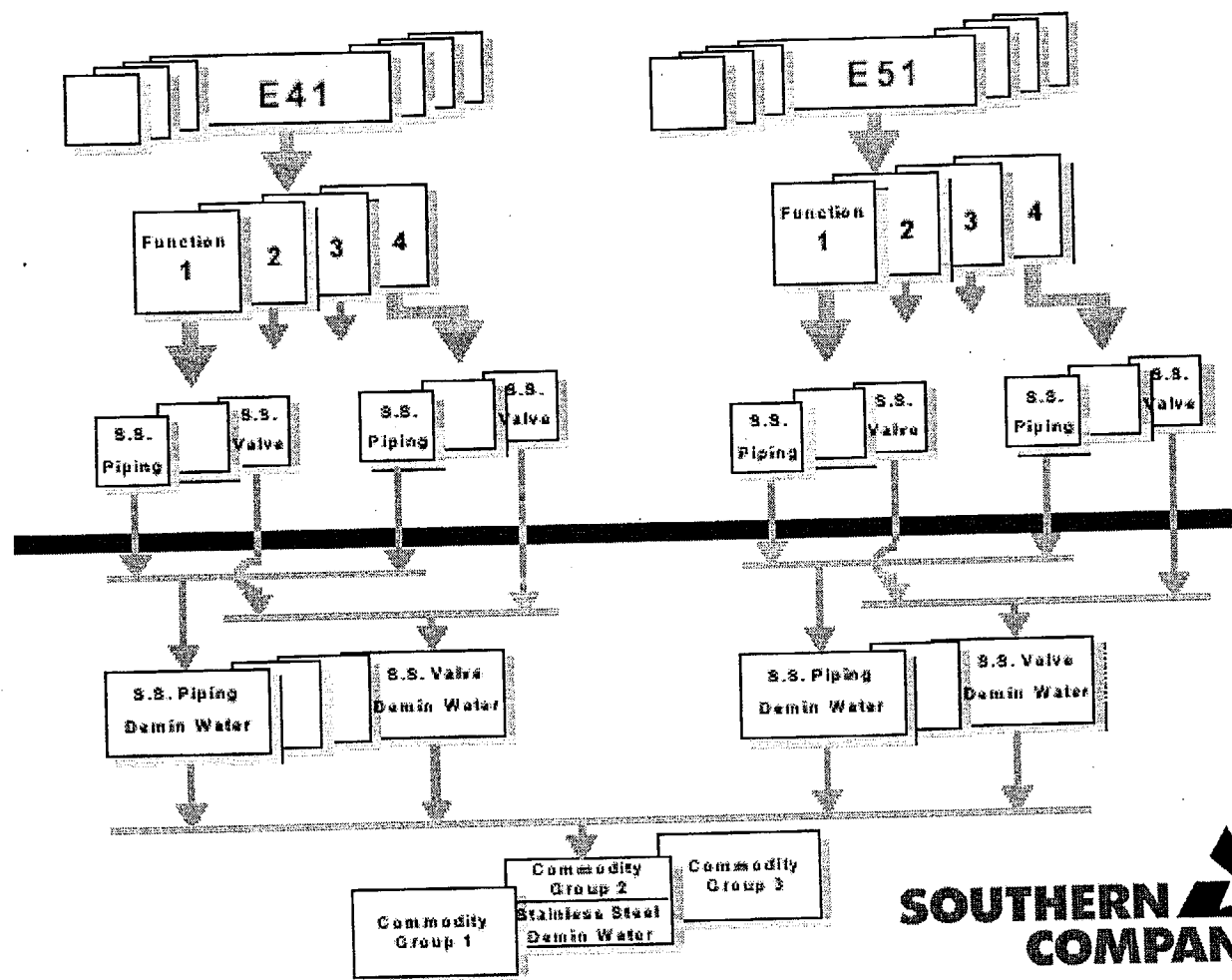
In-Scope
Functions

Components &
Component Types
Subject to AMR

Examine
Environment &
Materials

Component
Grouping

Commodity
Group

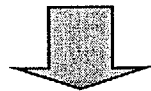


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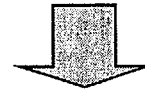
PLANT HATCH LICENSE RENEWAL APPLICATION

AGING MANAGEMENT REVIEWS

AGING MANAGEMENT
ACTIVITIES TABULATION



COMMODITY AGING
EFFECTS REVIEW



AGING MANAGEMENT REVIEWS

- Identify aging effects requiring management in the renewal period
- Identify TLAAs
- Assess level of existing aging management
- Identify proposed enhancements
- Demonstrate adequate aging management through the combination of industry and plant-specific operating experience and programmatic coverage of 10 attributes
- After all AMRs were complete, recent Generic Communications were evaluated for potential impact on AMRs

PLANT HATCH LICENSE RENEWAL APPLICATION

AGING MANAGEMENT PROGRAMS

◆ Seven existing chemistry-related activities

- reactor water chemistry control
- closed cooling water chemistry control
- diesel fuel oil testing
- plant service water and RHR service water chemistry control
- fuel pool chemistry control
- demineralized water and CST chemistry control
- suppression pool chemistry control

◆ Six existing regulation-driven programs

- corrective actions program
- inservice inspection program
- structural monitoring program
- primary containment leak-rate testing
- fire protection activities
- flow-accelerated corrosion program



PLANT HATCH LICENSE RENEWAL APPLICATION

AGING MANAGEMENT PROGRAMS (Continued)

- ◆ **Programs to implement BWRVIP and RPV monitoring**
- ◆ **Eleven plant-specific programs or activities**
 - overhead crane and refueling platform inspections
 - torque activities
 - component cyclic or transient limit program
 - plant service water and RHR service water inspection program
 - wetted cable activities
 - protective coatings programs
 - equipment and piping insulation monitoring program
 - passive component inspection activities
 - RHR heat exchanger augmented inspection and testing program
 - torus submerged components inspection program
 - non-EQ cable management program



PLANT HATCH LICENSE RENEWAL APPLICATION

AGING MANAGEMENT PROGRAMS (Continued)

- ◆ **Four new one-time inspections**
 - galvanic susceptibility inspections
 - treated water systems piping inspections
 - gas systems components inspections
 - condensate storage tank inspection



PLANT HATCH LICENSE RENEWAL APPLICATION

TIME-LIMITED AGING ANALYSIS PROCESS

- ◆ A list of calculations (in-house and A/E) was compiled to encompass those with a time-limited nature
- ◆ A separate review was conducted of NSSS vendor scope
- ◆ Initial screening was performed using Criterion 3 - the time-limited nature of the calculation
- ◆ The set of calculations that met Criterion 3 was then screened using the remaining 5 criteria
- ◆ Both "actives" and "passives" were screened
- ◆ Separately, a CLB review was performed to assure a thorough review to identify potential TLAAs

PLANT HATCH LICENSE RENEWAL APPLICATION

TIME-LIMITED AGING ANALYSES

- ◆ Stress analyses that consider thermal fatigue (piping, nozzles, torus)
- ◆ Piping wall thickness allowances based on an anticipated corrosion rate
- ◆ RPV corrosion allowance
- ◆ EQ of electrical equipment
- ◆ Containment penetration pressurization cycle analysis
- ◆ RPV RT_{NDT} and Charpy USE
- ◆ Analysis of technical alternative to Code requirement for inspection of RPV circumferential welds

ACRS LICENSE RENEWAL SUBCOMMITTEE
PLANT HATCH LICENSE RENEWAL APPLICATION

MARCH 28, 2001

WILLIAM BURTON
PROJECT MANAGER
NRR

OVERVIEW

BACKGROUND

APPLICATION SUBMITTED BY LETTER DATED FEBRUARY 29, 2000

BOILING WATER REACTOR. 2 UNITS

PLANT LOCATED ON ALTAMAHA RIVER IN APPLING COUNTY, GEORGIA.
APPROXIMATELY 11 MILES NORTH OF BAXLEY, GEORGIA

UNIT 1: CURRENT LICENSE EXPIRES AUGUST 6, 2014. REQUESTS RENEWAL
THROUGH AUGUST 6, 2034

UNIT 2: CURRENT LICENSE EXPIRES JUNE 13, 2018. REQUESTS RENEWAL THROUGH
JUNE 13, 2038

CURRENT REVIEW STATUS

OVERVIEW

COMPARISON TO PREVIOUS LICENSE RENEWAL APPLICANTS

FIRST BWR

FIRST TO USE BOILING WATER REACTOR VESSEL AND INTERNALS PROJECT (BWRVIP) REPORTS

FIRST TO USE FUNCTIONAL APPROACH VS SYSTEM APPROACH IN SCOPING PROCESS

FIRST TO APPLY AGING MANAGEMENT PROGRAM ATTRIBUTES TO DEMONSTRATE ADEQUACY OF AGING MANAGEMENT VS APPLYING ATTRIBUTES TO AGING MANAGEMENT PROGRAMS

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.1 - SCOPING AND SCREENING METHODOLOGY

BUTCH BURTON

OPEN ITEMS

Scoping of Seismic II/I piping

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.2 - PLANT LEVEL SCOPING RESULTS

ITEMS OF INTEREST

Regrouping of common system functions

OPEN ITEMS

None

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.3.1 - INTRODUCTION

2.3.2 - REACTOR AND REACTOR COOLANT SYSTEMS

4 Systems

**Fuel
Nuclear Boiler**

**Reactor Assembly
Reactor Recirculation**

OPEN ITEMS

None

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.3.3 - ENGINEERED SAFETY FEATURES SYSTEMS

ITEMS OF INTEREST

8 Systems

**Standby Liquid Control
Core Spray
Reactor Core Isolation Cooling
PC Purge & Inerting**

**Residual Heat Removal
High Pressure Coolant Injection
Standby Gas Treatment
Post-LOCA Hydrogen Recombiners
(Unit - 2 Only)**

OPEN ITEMS

**Scoping and screening of skid-mounted components of the Post-LOCA
Hydrogen Recombiners System**

**Scoping and screening of housings for fans, dampers, and heating and cooling
coils for the standby gas treatment system**

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.3.4 - AUXILIARY SYSTEMS

20 Systems

**Control Rod Drive
Insulation
Condensate Transfer & Storage
Plant Service Water
Instrument Air
Drywell Pneumatics
Cranes, Hoists, and Elevators
Reactor Building HVAC
Outside Structures HVAC
Fuel Oil**

**Refueling Equipment
Access Doors
Sampling
Reactor Building Closed Cooling Water
PC Chilled Water System
Emergency Diesel Generators
Tornado Vents
Traveling Water Screens/Trash Racks
Fire Protection
Control Building HVAC**

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.3.4 - AUXILIARY SYSTEMS (continued)

OPEN ITEMS

Scoping and screening of skid-mounted components of the Emergency Diesel Generators System

Scoping and screening of housings for fans, dampers, and heating and cooling coils for the HVAC systems for the Control Building, Outside Structures, and Reactor Building

Scoping and screening of fire suppression system in the radwaste building

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.3.5 - STEAM AND POWER CONVERSION SYSTEMS

2 systems

Electro-hydraulic control

Main condenser

Open Items

None

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.4 - STRUCTURES AND STRUCTURAL COMPONENTS

13 structures/structural components

Piping specialties	Conduits, raceways, and trays
Primary containment	Fuel storage
Reactor building	Drywell penetrations
Reactor building penetrations	Turbine building
Intake structure	Yard structures
Main stack	EDG building
Control building	

Open Items

None

SER SECTION 2 - STRUCTURES AND COMPONENTS SUBJECT TO AN AGING MANAGEMENT REVIEW

2.5 - ELECTRICAL COMPONENTS

14 systems

**Analog transmitter trip
PC isolation
Remote shutdown
Heat trace
In-plant aux control panels
DC electrical
Power transformers**

**Nuclear steam supply shutoff
Reactor protection
Process radiation monitoring
Main control room panels
Plant AC electrical
Plant communications
Emergency response facilities**

OPEN ITEMS

None

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.1 - AGING MANAGEMENT PROGRAMS

MEENA KHANNA

ITEMS OF INTEREST

30 Aging Management Programs

SIGNIFICANT OPEN ITEMS

BWR Water Chemistry Guidelines

Corrosion of diesel fuel oil storage tanks

Stress corrosion cracking of high-strength pressure boundary bolting

Reactor vessel integrated surveillance program (ISP)

Vibration-induced cracking in RHR heat exchangers

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.1 - AGING MANAGEMENT PROGRAMS

Jai Rajan

OPEN ITEMS (continued)

Testing of sprinkler heads in fire suppression system

Sprinkler head inspection intervals

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.2 - REACTOR AND REACTOR COOLANT SYSTEMS BARRY ELLIOT

ITEMS OF INTEREST

Boiling Water Reactor Vessel and Internals Project (BWRVIP) reports

OPEN ITEMS

Loss of fracture toughness resulting from neutron irradiation for CASS jet pump assembly components and fuel supports

Cracking of small-bore piping

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.3 - ENGINEERED SAFETY FEATURE SYSTEMS

CAROLYN LAURON

8 Systems

**Standby Liquid Control
Core Spray
Reactor Core Isolation Cooling
PC Purge & Inerting**

**Residual Heat Removal
High Pressure Coolant Injection
Standby Gas Treatment
Post-LOCA Hydrogen Recombiners
(Unit - 2 Only)**

Open Items

None

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.4 - AUXILIARY SYSTEMS

20 Systems

**Control Rod Drive
Insulation
Condensate Transfer & Storage
Plant Service Water
Instrument Air
Drywell Pneumatics
Cranes, Hoists, and Elevators
Reactor Building HVAC
Outside Structures HVAC
Fuel Oil**

**Refueling Equipment
Access Doors
Sampling
Reactor Building Closed Cooling Water
PC Chilled Water System
Emergency Diesel Generators
Tornado Vents
Traveling Water Screens/Trash Racks
Fire Protection
Control Building HVAC**

Open Items

None

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.5 - STEAM AND POWER CONVERSION SYSTEMS

2 systems

Electro-hydraulic control

Main condenser

Open Items

None

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.6 - STRUCTURES AND STRUCTURAL COMPONENTS Hans Ashar

13 structures/structural components

**Piping specialties
Primary containment
Reactor building
Reactor building penetrations
Intake structure
Main stack
Control building**

**Conduits, raceways, and trays
Fuel storage
Drywell penetrations
Turbine building
Yard structures
EDG building**

OPEN ITEMS

Reactor building controlled leakage characteristics (CLC)

**Applicant: ISI is adequate
Staff: CLC should be verified**

Management of torus corrosion

Applicant provided information - open item closed

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.6 - STRUCTURES AND STRUCTURAL COMPONENTS Hans Ashar

Open Item (continued)

Aging management of gears, latches, and linkages

IWE - ISI, Appendix J, and TS - open item closed

SER SECTION 3 - AGING MANAGEMENT REVIEW

3.7 - ELECTRICAL AND INSTRUMENTATION AND CONTROL

14 systems

**Analog transmitter trip
PC isolation
Remote shutdown
Heat trace
In-plant aux control panels
DC electrical
Power transformers**

**Nuclear steam supply shutoff
Reactor protection
Process radiation monitoring
Main control room panels
Plant AC electrical
Plant communications
Emergency response facilities**

OPEN ITEMS

None

SER SECTION 4 - TIME-LIMITED AGING ANALYSES

4.1 - IDENTIFICATION OF TLAAs

JOHN FAIR

OPEN ITEMS

Fatigue analyses for vessel internals and other reactor coolant pressure boundary components

High-energy line-break postulation based on fatigue cumulative usage factor

SER SECTION 4 - TIME-LIMITED AGING ANALYSES

4.2 - PIPE STRESS JOHN FAIR

OPEN ITEMS

Resolution of environmental fatigue issue

SER SECTION 4 - TIME-LIMITED AGING ANALYSES

4.3 - CORROSION ALLOWANCE

4.4 - ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

4.5 - CONTAINMENT PENETRATION AND PRESSURIZATION CYCLES

Open Items

None

SER SECTION 4 - TIME-LIMITED AGING ANALYSES

4.6 - REACTOR VESSEL

Reviewed effect of neutron irradiation embrittlement on:

- 1. RPV pressure-temperature limits**
- 2. Fracture resistance of materials with low Charpy Upper Shelf Energy**
- 3. Need for volumetric examination of circumferential welds in the RPV**
- 4. Failure frequency of axial welds**

Open Items

None

SER SECTION 4 - TIME-LIMITED AGING ANALYSES

4.7 - MAIN STEAM ISOLATION VALVE OPERATING CYCLES

ITEMS OF INTEREST

Applicant concluded that number of operating cycles did not constitute a TLAA. These valves are periodically tested and refurbished, as necessary. Valve service life is restored when internals are refurbished

OPEN ITEMS

None