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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

EDWIN I. HATCH
NUCLEAR PLANT SUPPLEMENTAL
ENVIRONMENTAL IMPACT STATEMENT FOR
LICENSE RENEWAL

PUBLIC MEETING

Southeastern Technical Institute (STI)
Tattnall Auditorium
3001 East First Street
Vidalia, Georgia 30474

Tuesday, December 12, 2000

7:00 p.m.

BEFORE:

CHIP CAMERON, Special Agent

ANN RILEY & ASSOCIATES, LTD.
Court Reporters
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Washington, D.C. 20036
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P R O C E E D I N G S

(7:00 p.m.)

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3 MR. CAMERON: Okay. Let's get started with
4 tonight's meeting. Thank you all for being with us tonight
5 and welcome to the NRC's Public Meeting to discuss the Draft
6 Supplemental Environmental Impact Statement.

7 My name is Chip Cameron, and I will be your
8 Facilitator tonight. I want to talk about three things
9 briefly, before we get on with the substance of the
10 presentation. One is objectives. Secondly, the format and
11 ground rules for tonight's meeting. Thirdly, I want to give
12 you a quick agenda overview and use that as a vehicle to
13 introduce all of the presenters that are going to give you
14 some background information tonight.

15 In terms of objectives, we want to provide you
16 with information on the contents of the Draft Environmental
17 Impact Statement and also on the status of the license
18 renewal application for Units 1 and 2 at Hatch.

19 Secondly, we want to listen to any comments you
20 have on the Draft Environmental Impact Statement, or on
21 license renewal as we consider the full scope of
22 environmental impacts. Is there a piece of information that
23 we haven't looked at that we should have looked at in
24 preparing the Final Environmental Impact Statement? The
25 ultimate objective is to use your comments to assist us in

1 preparing the Final Environmental Impact Statement. The NRC
2 staff will be telling you more about the process and
3 schedule for doing that.

4 There are going to be written comments accepted on
5 the Draft Environmental Impact Statement, but we're here
6 tonight to meet with you in person. We thought that you may
7 hear some information tonight that will help you to prepare
8 written comments if you want to prepare them, but you will
9 also hear what others in the community feel about the Draft
10 Environmental Impact Statement and the information in it.
11 Be assured that any comments that you give tonight will be
12 considered with as much weight as we consider any written
13 comments that are submitted.

14 In terms of format, we'd like to keep it informal
15 and interactive. So what we're going to do is, there's
16 going to be a number of NRC presentations on various issues
17 tonight, and after each of those presentations we're going
18 to go out to talk with you and see if you have any
19 questions, see if you have any comments on what you heard in
20 that presentation. If you want to talk, just give me a
21 signal and I'll bring you this talking stick. Please state
22 your name and affiliation if appropriate, because we are
23 keeping a transcript. We have a great stenographer over
24 here who is helping us out tonight and we'll get you on the
25 record.

1 We also may have people who want to make some more
2 formal statements rather than just the interaction with the
3 NRC staff after their presentations. We'll do those formal
4 statements at the end of the night. Both for the formal
5 statements and in your comments after the presentations, I
6 would just ask you to try to be as concise as possible so
7 that we can make sure that other people who want to talk
8 have that opportunity to do so.

9 For the formal presentations we'll just set a
10 rough guideline of about 10 minutes for those presentations
11 to make sure that we get through all of them.

12 We would also ask you to try to stay on the issue
13 of the environmental impacts that may be associated with
14 license renewal. We know there may be a lot of other
15 concerns with nuclear power in general, or other issues
16 going on at the facility. We are always interested in
17 hearing what you have to say about these issues and
18 providing information on them, but we do want to focus as
19 much as is possible, on the Environmental Impact Statement.

20 To give you a preview of what you are going to
21 hear tonight, I'm going to go through the agenda. The first
22 item on the agenda after I'm done, is going to be just a
23 short few words on meeting overview and purpose. Cindy
24 Carpenter, right here, is going to talk to you about that.
25 She is the Branch Chief of the Generic Issues,

1 Environmental, Financial, and Rulemaking Branch within our
2 Office of Nuclear Reactor Regulation at NRC Headquarters.
3 Cindy's staff, among other things, they are the people
4 responsible for preparing and overseeing the preparation of
5 the Environmental Impact Statement on the license renewal
6 application, not only for Hatch, but for any other facility
7 that comes in for license renewal.

8 After we hear from Cindy, then we're going to go
9 to William "Butch" Burton, who is right here tonight to my
10 left. Now Butch is the Senior Project Manager for the Hatch
11 License Renewal on what we call the safety side, as opposed
12 to the environmental side. Butch is in the License Renewal
13 and Standardization Branch, again, in the Office of Nuclear
14 Reactor Regulation. He is going to guide you through the
15 license renewal process generally. We will be sure that we
16 tell you how the environmental information that is developed
17 by Cindy's staff is integrated with the safety information
18 that is done by Butch and other people in the License
19 Renewal and Standardization Branch.

20 After Butch is done, we'll go out to you for any
21 questions or comments. Then we're going to go to Andy
22 Kugler, to my right. Andy is in Cindy's branch. He's the
23 Project Manager on the environmental side for the Hatch
24 license renewal. He's going to take you through the
25 NEPA -- National Environmental Policy Act -- process that

1 is applied to license renewal applications. Then we'll go
2 to Andy for any questions that you might have.

3 We're then going to go to the specifics of the
4 Draft Environmental Impact Statement. We have Mary Ann
5 Parkhurst, who is a Staff Scientist from the Pacific
6 Northwest National Lab. Mary Ann and her staff and others
7 have helped the NRC to evaluate the environmental impacts
8 connected to the license renewal. She is going to take us
9 through how they did that and some of the specific impacts
10 that are laid out in the Draft Environmental Impact
11 Statement. We'll have at least one or two opportunities
12 during her presentation for you to ask questions, as well as
13 at the end of her presentation.

14 Then we're going to go back to Andy for -- Oh,
15 that's right. Let me not forget Mike Snodderly, who is over
16 here, from the NRC staff also from the Office of Nuclear
17 Reactor Regulation. As you will hear, one part of the Draft
18 EIS deals with accidents and Mike is in the Probabilistic
19 Safety Assessment Branch. He is a reactor engineer and he
20 is going to talk about Severe Accident Mitigation
21 Alternatives, which the staff and other people I suppose,
22 call SAMAs. He is going to talk to us about that and we'll
23 have questions. Then back to Andy who will sort of do a
24 final wrap-up and questions. Then we'll go to people who
25 want to make a more formal comments.

1 With that, I'll turn it over to Cindy Carpenter.

2 MS. CARPENTER: Good evening, and thank you very
3 much for coming.

4 As Chip said, my name is Cindy Carpenter. I am
5 the Branch Chief for the Generic Issues, Environmental,
6 Financial, and Rulemaking Branch within the Office of
7 Nuclear Reactor Regulation at the NRC. Slide 2.

8 We're here today to talk about the preliminary
9 results of our environmental review that the NRC is
10 undertaking as a result of the Southern Nuclear Operating
11 Company's application to renew the operating licenses for
12 the Hatch Nuclear Power Plant, Units 1 and 2.

13 We'll talk a little bit about the statutory
14 requirements for this action, the purpose of the review, the
15 process that we go through, the preliminary results, and the
16 schedule that we're working to. More importantly, we'll
17 provide you the opportunity to give us any input that you
18 might have on these preliminary results, and to ask any
19 questions that you might have today. Slide 3, please.

20 To provide you with some background, the operating
21 licenses for Hatch, Units 1 and 2, will currently expire in
22 the year 2014 for Unit 1, and the year 2018 for Unit 2. As
23 we will discuss in a little bit, the Atomic Energy Act
24 allows a licensee such as Southern Nuclear, to renew their
25 license for up to 20 additional years.

1 Part of the license renewal process requires the
2 NRC to systematically consider the environmental impacts
3 during its decision-making process on this action. Slide 4,
4 please.

5 Southern Nuclear submitted its license renewal
6 application for Hatch, Units 1 and 2, in February of this
7 year. We visited the site and held two Public Scoping
8 Meetings right here in May, to identify issues that may need
9 to be addressed during our review. On November 3, 2000, the
10 NRC issued a Draft Supplemental Environmental Impact
11 Statement that describes the results of our review.

12 We are currently in the middle of the comment
13 period for that document, during which time we ask for
14 comments from members of the public. These comments may
15 help the staff to evaluate the acceptability of the
16 environmental aspects of the Hatch license renewal. That
17 brings us to why we are here today. Slide 5.

18 The purpose of today's meeting is to describe the
19 environmental review process to you. It is also to discuss
20 the results of our review with you, provide you with our
21 review schedule, accept any comments that you may have
22 today, and explain how to submit further comments before the
23 end of the comment period. Slide 6, please.

24 Before we explain the license renewal process to
25 you, I'd like to lay a foundation to explain in general

1 terms what the Nuclear Regulatory Commission does.

2 The Nuclear Regulatory Commission's authority is
3 derived from the Atomic Energy Act of 1954, the Energy
4 Reorganization Act of 1974, as well as amendments to those
5 acts, and other legislation involving security, waste, and
6 energy policies. The NRC's regulations are issued under
7 Title 10 of the United States Code of Federal Regulations.
8 You will hear us refer to that as 10 CFR. Slide 7, please.

9 Based on this legislation, the NRC's mission is to
10 regulate the nation's civilian use of nuclear materials to
11 ensure the adequate protection of the public health and
12 safety, to promote the common defense and security, and to
13 protect the environment.

14 Additional requirements for the evaluation of
15 environmental impacts are provided by the National
16 Environmental Policy Act, which you will hear us refer to
17 many times as NEPA.

18 For commercial nuclear power reactors, the
19 NRC's regulatory functions include licensing. A
20 nuclear power plant license is based upon a set of
21 established regulatory requirements to ensure that the
22 design and the operation of the plant are safe based upon
23 radiological safety standards. The NRC conducts routine
24 inspections to ensure that the plant design and operation
25 conform to the license requirements. Enforcement actions

1 are taken in the event that the license requirements are not
2 being satisfied.

3 That is a background and we'll turn this over to
4 Butch Burton. As Chip said, Butch is the NRC's License
5 Renewal Senior Safety Project Manager for Hatch, and he will
6 explain the license renewal process. Thank you.

7 MR. BURTON: Thank you, Cindy. As has been
8 mentioned a couple of times, my name is Butch Burton. I am
9 the Project Manager for the safety review for the Hatch
10 license renewal application. May I have Slide 9, please?

11 The Atomic Energy Act and NRC regulations limit
12 commercial power reactor licenses to 40 years, but also
13 permit the renewal of such licenses for up to an additional
14 20-year period. The 40-year term was originally selected on
15 the basis of economic and antitrust considerations, not
16 technical limitations. Once the license term was
17 established, the design of several system and structural
18 components were engineered on the basis of an expected
19 40-year service life.

20 The safety requirements for the initial 40-year
21 license are contained in 10 CFR Part 50. When the first
22 reactors were constructed, major components were expected to
23 last at least 40 years. Operating experience has
24 demonstrated that this expectation was unrealistic for some
25 major plant components, such as the steam generators in a

1 pressurized water reactor.

2 However, research conducted since 1982 and plant
3 operating experience have demonstrated that there are no
4 technical limitations to plant life, since major components
5 and structures can be replaced or refurbished. Thus, the
6 plant life is determined primarily by economic factors. Can
7 I have Slide 10, please?

8 As a result, the NRC established regulatory
9 requirements in 10 CFR Part 54, to provide for license
10 renewal. The rule, which was initially issued in 1991, and
11 amended in 1995, provides that the basis on which a plant
12 was originally licensed remains valid after 40 years and can
13 be carried over into a 20-year period of extended operation.
14 The rule requires that an applicant demonstrate that
15 applicable aging effects will be adequately managed for a
16 defined scope of passive, long-lived systems, structures,
17 and components.

18 The Commission determined that aging for active
19 components is adequately managed by existing maintenance and
20 surveillance programs, and other aspects of the existing
21 license requirements can continue through the
22 license-extension period. The rule also requires that
23 certain time-dependent design analyses be identified and
24 evaluated.

25 A new license can be granted upon a finding by the

1 Commission that actions have been, or will be taken so that
2 there is a reasonable assurance that applicable aging
3 effects will be adequately managed for the period of
4 extended operation, and that environmental impacts of
5 license renewal are not so great that preserving the option
6 of license renewal for energy-planning decision makers would
7 be unreasonable. Slide 11, please.

8 The United States currently receives about 20
9 percent of its electricity from 103 operating nuclear power
10 plants. The electricity sector is moving rapidly to a
11 deregulated market in which energy supply choices will be
12 dictated by cost to the consumer. At the same time, there
13 are growing pressures to limit fossil-fuel emissions because
14 of continuing concerns for cleaner air and potential global
15 climate changes.

16 Deregulation and competition have raised the
17 interest in license renewal to strategic importance, because
18 large generating plants become vital economic assets to the
19 plant owners. Operating nuclear plants are expected to
20 remain competitive after retail electricity restructuring,
21 provided that the cost associated with operating the plant
22 safely in the future can be reasonably projected. Some
23 currently operating U.S. plants will not apply for license
24 renewal for economic reasons.

25 The NRC established the license renewal

1 requirements so that any plant that is financially and
2 materially capable of operating safely beyond the current
3 term of the license, should have that opportunity and should
4 clearly understand the requirements for such extended
5 operation.

6 Calvert Cliffs in Maryland was the first plant to
7 apply for license renewal. Their application was submitted
8 in April 1998, and a renewed license was granted in March of
9 this year. The renewal application for Plant Hatch was
10 submitted by letter dated February 29 of this year.

11 Although the licenses for the units at Plant Hatch
12 do not expire until 2014 for Unit 1 and 2018 for Unit 2,
13 many utilities are interested in license renewal today to
14 ensure that they clearly understand what requirements will
15 be necessary for an extended license for future financial
16 planning. Slide 12, please.

17 The licensing process consists of parallel safety
18 and environmental reviews which will be documented in a
19 Safety Evaluation Report for the aging management aspects of
20 the renewal application, and a supplement to the Generic
21 Environmental Impact Statement for the environmental impact
22 review. The aging management findings in the NRC staff's
23 safety evaluation will be verified by NRC inspections.

24 The renewal application and safety evaluation will
25 also be reviewed by the NRC's Advisory Committee on Reactor

1 Safeguards in accordance with the usual practices for
2 issuing a license. The NRC plans to complete a Safety
3 Evaluation Report for the Plant Hatch renewal application,
4 which will address the scope of passive systems, structures
5 and components, the applicable aging effects, and the aging
6 management programs that Southern Nuclear will rely on to
7 ensure that the plant is safely maintained for the period of
8 extended operation. The initial report will identify any
9 open items and confirmatory matters related to the safety
10 review under Part 54 that must be resolved before the
11 Commission can make its decision on a renewed license. That
12 report will be made available to the public.

13 The NRC's licensing process includes a formal
14 process for public involvement through hearings conducted by
15 a panel of administrative law judges, who are called the
16 Atomic Safety and Licensing Board. That process consists of
17 a petition to hold hearings on particular issues to be
18 litigated by the Board. There were no petitions submitted
19 for the Plant Hatch renewal application, so there is no
20 hearing planned.

21 Despite the absence of a formal hearing,
22 interested members of the public who are concerned about
23 nuclear safety issues can raise those issues informally
24 during the various public meetings that the NRC will hold
25 with Southern Nuclear to discuss the safety aspects of the

1 proposed extended plant operation. Time is usually provided
2 at the conclusion of each meeting for public comments and
3 questions.

4 Meetings on particular technical issues are
5 usually held at the NRC Headquarters in Rockville, Maryland.
6 However, some technical meetings and meetings to summarize
7 the results of the NRC's inspection findings will be held
8 near the plant site in a place that is accessible to the
9 public.

10 The Plant Hatch renewal application, Safety
11 Evaluation Report, meeting summaries, and other related
12 correspondence are, or will be, available for public review
13 at the NRC's Public Document Room in Rockville, or at the
14 NRC's Electronic Public Document Room at the web site,
15 www.nrc.gov.

16 Many of these materials can also be found on the
17 NRC's web site under Reactors and License Renewal. Paper
18 copies of the application, reports, and significant
19 correspondence are available to local residents at the
20 Apppling County Public Library, 242 E. Parker Street in
21 Baxley.

22 The Advisory Committee on Reactor Safeguards,
23 otherwise known as the ACRS, performs an independent review
24 of the renewal application and the safety evaluation, and
25 they report their findings and recommendations directly to

1 the Commission. They also hold public meetings which are
2 transcribed. Oral and written statements can be provided
3 during the ACRS meetings in accordance with the instructions
4 described in the notice of their meetings in the Federal
5 Register.

6 At the end of the process, the Final Safety
7 Evaluation Report, the Final Supplement to the Environmental
8 Impact Statement, the results of the inspections, and the
9 ACRS recommendation are submitted to the Commission with the
10 staff recommendation. Those documents and any formal
11 Commission meeting to discuss the staff's recommendation are
12 also accessible to the public. Each Commissioner will vote
13 on the proposed action, and their decision is formally sent
14 to the NRC staff for whatever action they conclude is
15 appropriate for the renewal application. The individual
16 Commissioner votes and their instructions to the NRC staff
17 are also public records.

18 Throughout the NRC's review of the license renewal
19 application, the NRC continues to conduct regular
20 inspections and consider amendments to the current license.
21 The NRC's inspections and plant performance reviews are
22 evolving with the NRC's initiatives to improve the reactor
23 oversight process.

24 If you are interested in learning more about the
25 new inspection and oversight process, there is information

1 available on the NRC's web page and in the brochures outside
2 the meeting room. The normal regulatory process and
3 amendments to the existing license will continue in parallel
4 with the renewal application, and address matters of
5 interest such as operational events, spent-fuel storage,
6 security, and emergency plans.

7 That concludes my presentation and I'll turn it
8 back over to Chip.

9 MR. CAMERON: Okay. Thanks a lot, Butch. Are
10 there any questions about the overall process? We're going
11 to have a number of presentations for those of you who might
12 have just come in, and then questions after that. So you'll
13 probably be able to catch up on all of this, but for those
14 of you who were here for Butch's presentation, any questions
15 on the safety side of license renewal, or the overall
16 process? Okay. Well, we'll be coming back to some of this
17 during other presentations. Let's go to Andy Kugler now, to
18 talk about the Environmental Impact Statement process. Andy
19 --

20 MR. KUGLER: Good evening. My name is Andy Kugler,
21 and I'm the Environmental Project Manager for the Hatch
22 license renewal. I work for Cindy Carpenter. Slide 14.

23 I intend to spend the next 20 minutes or so,
24 discussing the process that is required by the National
25 Environmental Policy Act, or what we call NEPA, and

1 describing how that process has been incorporated into our
2 regulations. Then finally, how we are implementing that
3 process for the review of the Hatch license renewal
4 application.

5 NEPA was enacted in 1969, and it requires all
6 Federal agencies to use a systematic approach to consider
7 environmental impacts during certain decision-making
8 proceedings for Federal actions. It is a disclosure tool
9 that involves the public. It involves a process by which
10 information is gathered to enable Federal agencies to make
11 informed decisions concerning environmental impacts of
12 proposed actions, document that information, and then invite
13 public participation in reviewing it.

14 The NEPA process results in a number of different
15 types of documents. The most significant of these are the
16 Environmental Impact Statements, or EISs, which describe the
17 results of a rigorous and detailed review that we perform to
18 evaluate the environmental impacts of a proposed action that
19 may significantly affect the quality of the human
20 environment.

21 The NRC has already determined that license
22 renewal is a major Federal action. Therefore, we are now
23 going through the NEPA process for the Hatch license renewal
24 application, and we have prepared the Draft Environmental
25 Impact Statement that describes the environmental impacts of

1 operation for an additional 20 years. Slide 15.

2 This slide describes the objective of our review.
3 To put it simply, we are trying to determine whether the
4 renewal of the Hatch licenses is acceptable from an
5 environmental viewpoint.

6 Whether the plants actually operate for that
7 additional 20 years will be determined by others, such as
8 Southern Nuclear and State regulatory agencies. Slide 16.

9 Now to give you a little bit of history, I'd like
10 to describe how the staff incorporated the NEPA process into
11 our regulations and how we perform an environmental review.
12 The NRC's implementing regulations for carrying out the NEPA
13 process are contained in Part 51 of Title 10 of the Code of
14 Federal Regulations, 10 CFR Part 51.

15 This regulation outlines the contents of the
16 Environmental Impact Statements and also the process that we
17 use to implement the requirements of NEPA. License renewal
18 is just one type of action that is covered by Part 51.

19 As the NRC began establishing the license renewal
20 process, we realized that the Environmental Impact
21 Statements that were prepared for the original licenses some
22 20 years ago, would need to be updated for the license
23 renewal period. So the NRC undertook a rulemaking for Part
24 51 to specifically address the environmental impacts of
25 license renewal.

1 As part of the rulemaking effort on Part 51, the
2 staff developed a Generic Environmental Impact Statement,
3 which we refer to commonly as the GEIS, or as NUREG-1437.
4 This took a systematic look at the thousands of hours of
5 operating experience with all the nuclear plants in this
6 country to help us to identify potential environmental
7 impacts.

8 In addition, the staff developed an Environmental
9 Standard Review Plan which provides guidance to us on how we
10 perform our environmental reviews. There are copies of 10
11 CFR Part 51, of the GEIS, and of the Environmental Standard
12 Review Plan in the lobby outside this room for you to look
13 at after the meeting. They can also be viewed on the
14 Internet at our web site, and they are available from the
15 Government Printing Office. Slide 17.

16 This slide shows a little bit more detail of the
17 environmental portion of the review for license renewal.
18 You may want to refer back to that as I continue my
19 discussion because I will be describing the steps that are
20 shown there. We'll go ahead and we'll also put it up on the
21 side here if you want to look at that as I'm going through.
22 Slide 18.

23 As far as the NEPA process is concerned, there are
24 certain steps that every Federal agency must go through as
25 it prepares an Environmental Impact Statement for a

1 proposed, major Federal action.

2 The first step is the Notice of Intent in which we
3 inform the public that we are planning to prepare an
4 Environmental Impact Statement. Then we invite comments on
5 the scope of that review. For Hatch, the Notice of Intent
6 was issued in the Federal Register in April of this year.

7 To prepare for the review, we assembled a team of
8 NRC staff with backgrounds in specific engineering and
9 scientific disciplines to review the environmental impacts.

10 In addition, to supplement our expertise, we
11 engaged the assistance of Pacific Northwest National
12 Laboratories to ensure that we had a well-rounded knowledge
13 base for our review. We put together a team of about 20
14 people, and some of those people are here this evening to
15 hear your comments and to answer questions.

16 The next step is the scoping process, during which
17 we identify issues that we need to address in the
18 Environmental Impact Statement. As I mentioned, we issued
19 the request for comments in the Federal Register in April.
20 In May, we held two meetings here to allow members of the
21 public to provide comments to us concerning the scope of the
22 review.

23 We also went to the Hatch site as a team to
24 acquaint ourselves with the area and with the site, and to
25 ask any questions we might have concerning the application

1 submitted by Southern Nuclear. Slide 19.

2 As the review progressed, the staff contacted
3 Federal, State, and local agencies to gather additional
4 information. We looked at a number of issues including the
5 environmental impacts of the proposed action to renew the
6 licenses, alternatives to the proposed action and the
7 environmental impacts associated with them, and possible
8 mitigation measures -- things that we could do to reduce the
9 environmental impacts of license renewal.

10 On November 3rd of this year, we issued the Draft
11 Environmental Impact Statement for public comment. It was
12 issued as Supplement 4 to the GEIS, because we rely on some
13 of the findings in the GEIS for some of our conclusions. The
14 report is draft, not because it is incomplete, but because
15 we are at an intermediate stage in the license renewal
16 process. We are in the midst of a second comment period --
17 a comment period on that draft -- to allow you and other
18 members of the public to look at the results and to provide
19 any comments you might have on the Draft Environmental
20 Impact Statement.

21 After we gather these comments and evaluate them,
22 we may decide to change portions of the EIS in response to
23 those comments. After that we will issue the Final
24 Environmental Impact Statement. Slide 20.

25 Now that I've given you a general idea of the

1 overall process, I'd like to talk about some of the
2 specifics of what we did during our review. The
3 Environmental Review Team looked at Southern Nuclear's
4 application and its environmental report. We visited the
5 site and reviewed Southern Nuclear's process for evaluating
6 environmental impacts, and we reviewed any comments we
7 received during the scoping process. All of the comments
8 that we received were considered in preparing the Draft
9 Environmental Impact Statement.

10 For example, we received comments concerning
11 alternatives and postulated accidents, and these were
12 addressed as part of our standard review process. In
13 addition, we received comments on off-site radiological
14 monitoring and this led us to look for other sources of
15 information, in this case the Georgia Department of
16 Natural Resources, and to include the results of that search
17 in the Draft Environmental Impact Statement. Slide 21.

18 In addition, we contacted Federal, State, and
19 local agencies, as well as local service agencies to obtain
20 more information on this area and on the plants. Slide 22.

21 These next two slides give you an idea of the
22 types of things that we look at. Things such as ecological
23 issues, health issues, socioeconomic issues -- Slide 23 --
24 and alternatives to renewing the licenses. So we take a
25 look at a large number of issues. Slide 24.

1 Finally, the regulations identify some issues that
2 we do not look at during our environmental review. These
3 include the need for power, the cost of power, and spent-
4 fuel disposal. In addition, my Environmental Review Team
5 does not evaluate safety aspects of license renewal. Those
6 aspects are reviewed by Mr. Burton's team.

7 Mary Ann Parkhurst, the Task Leader for Pacific
8 Northwest National Lab for the Hatch review, will talk
9 about the results of their review for most aspects of the
10 license renewal. After her, Mike Snodderly, from the NRC
11 staff, will discuss the specific aspects related to severe
12 accidents.

13 At this point, I'd like to turn it back over to
14 Chip.

15 MR. CAMERON: Okay. Thanks, Andy. You heard the
16 description of the Environmental Impact Statement process
17 for license renewal and we are going to go into the
18 specifics of the Draft Environmental Impact Statement, but
19 are there questions for Andy about the process -- schedule,
20 anything like that at this point? Okay, good. Let's go on
21 to the next subject. I think right now we're going to get
22 into the results of the Draft Environmental Impact Statement
23 and we're going to have Mary Ann Parkhurst, who is a Staff
24 Scientist from Pacific Northwest National Lab, talk with us
25 about that. As I mentioned before, Mary Ann, I'll let you

1 be the judge of when you want to break for questions from
2 the public. Mary Ann Parkhurst --

3 MS. PARKHURST: Good evening. I'm Mary Ann
4 Parkhurst from Pacific Northwest National Laboratory. We
5 worked with the NRC to write the Draft Environmental Impact
6 Statement that we're talking about tonight.

7 I'd like to talk about the process we used to
8 evaluate the environmental issues and then I'll talk about
9 the report itself. Slide 26, please.

10 First let me mention that we used the GEIS, the
11 Generic Environmental Impact Statement that Andy mentioned,
12 as the initial basis for our report. The NRC worked with
13 the states, with the Council on Environmental Quality, the
14 Environmental Protection Agency, and a number of other
15 groups to develop this document. It was done over a number
16 of years. It was done very extensively, trying to identify
17 all of the issues that would be related to a license renewal
18 term in the environmental area.

19 During that time, the NRC did its best to identify
20 which items really applied, and they identified and
21 categorized 92 specific impacts that had some relevance to
22 license renewal. These issues were evaluated in the GEIS
23 document. Now many of the potential impacts are issues that
24 are in common amongst most or all of the 103 or so,
25 operating nuclear plants regardless of the design of the

1 different plants.

2 The NRC wanted to distinguish the impacts that are
3 generic versus those impacts that are plant-specific. The
4 impacts that are generic have been named Category 1 issues.
5 Issues not necessarily generic, and that require plant-
6 specific evaluation have been identified as Category 2
7 issues. There are two issues that are not formally
8 categorized.

9 An example of a Category 1 issue is off-site
10 radiological consequences. When developing the GEIS, the
11 staff looked to see if off-site doses during the renewal
12 period would likely exceed the current levels associated
13 with normal operations of the plants today. Historical
14 records of doses to the public have to be maintained anyway
15 by the different plants. We reviewed these numbers and
16 concluded that doses to the public from the individual
17 plants are consistently well below those allowed by
18 regulations.

19 The staff could see no reason for these doses to
20 increase during the proposed license renewal period,
21 provided that radiation monitoring and compliance control
22 programs continue to be maintained acceptably.

23 Because the expected radiological impacts apply to
24 all plants, and the significance level of the off-site
25 radiological impacts is considered small at all plants, the

1 staff concluded that this item might be addressed on a
2 generic basis, and therefore it is a Category 1 issue. Now
3 that doesn't mean that we ignore these Category 1 issues.
4 Rather, it means that we only look for significant, new
5 information that would cause us to change our conclusions
6 that were made in the GEIS.

7 There were 69 Category 1 issues of the 92
8 identified, and as part of our review for these 69 issues,
9 we only look again, for new and significant information
10 directly applicable to them from the site. We do that by
11 our own analysis as we visit the plant and look at the
12 information that is available from State and other
13 regulators here. We also look to comments from you, the
14 public, from our Scoping Meeting, and we'll be doing it
15 again from this particular forum. Now the remaining 23
16 issues that were identified in the GEIS, require plant-
17 specific evaluation. Twenty-one of these are Category 2
18 issues. Two issues, the environmental justice issue and
19 chronic effects of electromagnetic fields are not
20 characterized. I'll talk about them a little later. Slide
21 27, please.

22 With regard to the Category 1 issues, the
23 Evaluation Team reviewed the Hatch Environmental Report and
24 discussed the information with Southern Nuclear Company's
25 representatives. We sought public comments during the

1 Public Scoping Meeting last spring and during the comment
2 period that followed. And we reviewed environmental
3 standards and regulations. Each Category 1 issue was
4 evaluated to determine whether or not any pertinent, new and
5 significant information outside the bounds of the GEIS was
6 identified. If we had identified any new and significant
7 information for Category 1 issues, we would have performed
8 further analysis.

9 However, we did not identify any new and
10 significant environmental information for these issues and
11 therefore, the staff relies on the conclusions in the GEIS as
12 supported by plant-specific information. Slide 28, please.

13 Like I said, there are 21 Category 2 issues.
14 These are the issues that are specifically evaluated in-
15 depth at each site. We evaluated these issues for the Hatch
16 Nuclear Plant. Of the 21 issues, five of them are not
17 applicable to the Hatch Plant because they are related to
18 plant design aspects, features that are not found at Hatch,
19 such as once-through cooling. Hatch uses closed-cycle
20 cooling with cooling towers. Therefore, those issues
21 related to once-through cooling are not applicable
22 here.

23 There are four issues related to refurbishment.
24 Because SNC states they have no plans for major
25 refurbishment activities, these issues are not relevant to

1 this analysis. That leaves us with 12 issues that we looked
2 at very specifically in the Draft EIS.

3 Finally, there are two additional issues that are
4 not categorized -- environmental justice and chronic
5 exposure to electromagnetic fields.

6 Environmental justice refers to actions that
7 result in a disproportionately high and adverse impact on
8 low-income or minority populations.

9 The issue of chronic exposure to electromagnetic
10 fields comes from the question of whether power transmission
11 lines could have some health implications. The potential
12 for chronic effects is still under investigation on this
13 issue. The staff considers this issue not applicable at
14 this time, and continues to follow developments as this
15 issue is resolved. Slide 29, please.

16 Now I'd like to go over the format of the draft
17 report. It follows the organization that was established in
18 the GEIS. Chapter 1 is an introduction that briefly
19 describes the NEPA process as Andy was discussing here
20 earlier.

21 Chapter 2 describes the Hatch Plant and the
22 environment that surrounds it. These descriptions are
23 divided into the topics you see up here. Slide 30, please.

24 The environmental impacts of license renewal are
25 discussed in Chapters 3 through 7. Chapter 3 is designed to

1 address the impacts of refurbishment. However, as SNC has
2 indicated, they have no plans to undertake refurbishment
3 operations aside from normal plant maintenance, this becomes
4 a placeholder in our document.

5 MS. RAY: Would you explain what you mean by
6 refurbishment?

7 MS. PARKHURST: Okay. I think that maybe -- Andy
8 would you care to more specifically identify this. This is
9 an issue, the exact boundaries of which I'd rather ask NRC
10 to identify please.

11 MR. CAMERON: Were you going to stop in a couple
12 of minutes?

13 MS. PARKHURST: Not yet. Let's do that -- we'll
14 get through the rest of the report organization, and then
15 that would be good -- that will explain that particular
16 issue a little further.

17 MR. CAMERON: Okay. We'll come back. We've got
18 you on the record with that. All right?

19 MS. RAY: Okay. Thank you.

20 MS. PARKHURST: Next, Chapter 4 addresses the
21 environmental impacts of operations during the license
22 renewal term. It specifically discusses the Category 1
23 issues that are relevant to the plant, and the Category 2
24 plant-specific issues that we take a much more in-depth look
25 at.

1 We looked at the impacts of the cooling system,
2 the impacts from the transmission lines, radiological
3 impacts, socioeconomics, groundwater use and quality, and
4 threatened and endangered species. Slide 31.

5 Chapter 5 discusses the postulated plant accidents
6 and it includes a review of Severe Accident Mitigation
7 Alternatives which Mike Snodderly will describe a little
8 later.

9 Chapter 6 examines the uranium fuel cycle and the
10 solid waste management process. It addresses the impacts to
11 the environment from the uranium fuel cycle.

12 Chapter 7 looks at the impacts of decommissioning
13 a plant that has operated an additional 20 years.

14 Chapter 8 evaluates the alternatives to license
15 renewal, and it describes the major methods that could be
16 used to obtain the same amount of power without having to
17 renew the Hatch Nuclear Plant licenses.

18 Finally, Chapter 9 contains a summary of our
19 preliminary conclusions. Okay. This would be a good time
20 to stop and ask questions and get a better definition.

21 MR. CAMERON: Let's get this on the record okay?
22 Janisse --

23 MS. RAY: Thank you, Chip. What do you mean by
24 refurbishment?

25 MR. KUGLER: Okay. In this context, what we're

1 talking about is activities beyond just the normal ongoing
2 refurbishment activities that are going on in a plant every
3 day. In other words, these plants are always working on
4 their equipment, upgrading it, and maintaining it, but
5 that's not what we're talking about here. We're talking
6 about activities that are above and beyond the normal
7 activities that are done every day at the plant.

8 An example might be something like the replacement
9 of a steam generator in a pressurized water reactor.
10 Something that could have environmental impacts outside the
11 plant. So it's not just the day-to-day type work that's
12 done. I mean, they have re-fueling outages every 18 months
13 at each of these units and there's always activities going
14 on in those outages. We're not including that. Does that
15 make sense?

16 MS. RAY: Didn't you say that was an issue that
17 wasn't applicable to Plant Hatch, so you didn't look at it?

18 MR. KUGLER: In other words, what they indicated
19 in their application is that they have no plans for major
20 refurbishment activities in the license renewal period.
21 They are not planning to do anything beyond the normal
22 activities that go on. Does that make sense?

23 MS. RAY: Yes. It makes sense. It's just odd.

24 MR. CAMERON: Okay. Janisse, do you have any
25 other questions on this at this point?

1 MS. RAY: This is different. Human Health is one
2 of the issues that you looked at. Right? I didn't see it
3 up here, but I do see it here. I want to know what you
4 looked at to determine whatever you found out about human
5 health.

6 MR. KUGLER: In terms of refurbishment or? --

7 MS. RAY: No. In general.

8 MR. KUGLER: I'm going to answer it in very simple
9 terms, because human health shows up in more than one place.

10 MR. CAMERON: Mary Ann, are you going to
11 specifically talk about these various aspects of human
12 health in your next set of slides?

13 MS. PARKHURST: Where they are evaluated in the
14 course of this document, yes. I will be picking up on the
15 specifics of the different chapters as we go.

16 MR. CAMERON: Well then, Janisse, we'll wait on
17 that then. If there are particular aspects that you don't
18 hear her discuss, you can ask why they weren't discussed.

19 Do we have any other questions from the audience,
20 or comments on what we've heard so far about the specific
21 aspects of the Draft EIS? All right. Well, Mary Ann, why
22 don't you go through the next segment for us?

23 MS. PARKHURST: Okay. Slide 32.

24 Now that I've given you an overview of the
25 contents of the report, I'd like to spend the rest of my

1 time reviewing some of the highlights specific to the Hatch
2 Nuclear Plant. I need a drink of water first.

3 Slide 33, please. Let's talk a little bit about
4 the cooling system at HNP. This plant uses a closed-loop
5 cooling system to absorb excess heat through reactor
6 condensers. The system has six mechanical draft cooling
7 towers, and Hatch withdraws water from the Altamaha River
8 through a single in-take structure to feed these cooling
9 towers. Water is returned to the river through a submerged
10 discharge structure about 1,300 feet downriver from the
11 water in-take.

12 One of the issues that we look at for the cooling
13 systems is entrainment and impingement of aquatic species
14 that occurs when planktonic larval fish and shellfish
15 drifting in the river are carried with the cooling water and
16 get stuck against the in-take screens or get into the
17 cooling system. There is a high mortality rate for these
18 larval fish. That's the reason we look at this issue.

19 Now because Hatch has cooling towers rather than
20 being a once-through cooling system, this is not expected to
21 be much of an issue. There was a 5-year study conducted
22 on impingement which looked at this more specifically. It
23 identified that the impingement rate fluctuated between an
24 average of 0.4 fish per day to 1.2 fish per day. These were
25 the averages over time.

1 The Hogchoker, which is what this picture is meant
2 to be, was the most abundant larval fish taken, and was the
3 only species collected consistently each year. Species
4 affected by entrainment and impingement are not considered
5 endangered. The impact on these populations is considered
6 small. Now by small we're using the GEIS definition here
7 where it means that the effects are not detectable, or are
8 too small to destabilize or noticeably alter any important
9 attributes of the resource.

10 I want to also mention here threatened and
11 endangered species because that's a Category 2 issue and we
12 evaluated it as well. Aquatic and terrestrial species were
13 recently surveyed in a Field Study of the Hatch site and
14 they also surveyed the transmission corridors for the plant.
15 This survey included freshwater mussels and again, aquatic
16 and terrestrial -- other aquatic species.

17 As a part of the SNC's evaluation of threatened
18 and endangered species, they consulted with agencies such as
19 the Georgia Department of Natural Resources, the U.S. Fish
20 and Wildlife Service, and the National Marine Fisheries
21 Service regarding the potential occurrences of threatened
22 and endangered species in the vicinity of the Hatch Plant.

23 One Federally-listed aquatic species, the
24 Short-nosed Sturgeon is know to occur in the Altamaha River
25 in the vicinity of the Hatch Plant. Several terrestrial

1 species are also documented in the area. SNC determined
2 that its operation and maintenance procedures would remain
3 unchanged during the license renewal period and did not
4 threaten the existence of these listed species.

5 The Georgia Department of Natural Resources and
6 the Fish and Wildlife Service concurred with the no-effect
7 determination specifically for the mussel species. SNC has
8 requested a no-effect determination from the National Marine
9 Fisheries Service for the Short-nosed Sturgeon, based on an
10 extensive biological assessment.

11 Meanwhile, the NRC staff has evaluated potential
12 impacts related to entrainment and impingement of the
13 Short-nosed Sturgeon at the Hatch in-take structure and
14 thermal effects, and has found no evidence that the Sturgeon
15 would be adversely impacted by the Hatch license renewal.
16 This information they then provided to the National Marine
17 Fisheries Service. Slide 34, please.

18 Heat shock is unlikely to be an issue at plants
19 with cooling towers and the impact of heat shock on aquatic
20 systems at Hatch is identified as small.

21 The last Category 2 issue related to the cooling
22 system is microbial organisms, specifically, thermophilic
23 pathogens. These are organisms that love heat. We looked
24 at this to determine if there was an enhanced presence of
25 these organisms that could pose an elevated risk to the

1 public during the renewal period. The pathogens require
2 elevated discharge temperatures for optimal growth and
3 reproduction.

4 During the course of the analysis, it was
5 determined that the cooling system discharge temperatures
6 which are monitored weekly and reported to the Georgia
7 Department of Natural Resources, are consistently below
8 those promoting pathogen growth and survival.

9 Additionally, because wastewater is treated before
10 discharge, there is a lack of a pathogenic source like
11 untreated sewage, that would put the pathogens into the
12 river to begin with.

13 The staff concludes that the potential impacts of
14 microbiological organisms on human health, resulting from
15 the plants' cooling system water discharged to the aquatic
16 environment during the license renewal period is small.
17 Slide 35, please.

18 The transmission system that distributes the
19 electricity generated by the Hatch Plant includes six
20 transmission lines with a total corridor length of 338
21 miles. The GEIS evaluation of environmental issues relevant
22 to transmission lines regarded such issues as power line
23 right-of-way management, which consists largely of cutting
24 vegetation and using herbicides in certain areas, bird
25 collisions with power lines, and electromagnetic fields on

1 flora and fauna. These are Category 1 issues. We found no
2 new and significant information with these transmission line
3 impacts.

4 There is one Category 2 impact issue related to
5 transmission lines, and that's the potential for electric
6 shock from electromagnetic fields. Plants applying for
7 license renewal must assess the potential shock hazard if
8 the transmission lines that were constructed specifically to
9 connect the plant to the transmission system don't meet
10 the recommendations of the National Electrical Safety Code
11 criteria. At the time the transmission lines were
12 constructed, they were designed to meet the safety code
13 guidance.

14 Newer requirements to calculate the induced
15 current beneath the lines to a large vehicle shorted to
16 ground were reported to be well below the safety code limit.
17 Therefore, the impact of acute electromagnetic field
18 effects, or the potential for electric shock is small.

19 One other issue regarding transmission lines is
20 the chronic effect of extremely low frequency
21 electromagnetic fields. This issue is not categorized in
22 the GEIS. The NRC considers this issue not applicable as
23 there is no final conclusion yet. The NRC is following the
24 scientific developments on this issue. Slide 36, please.

25 The evaluation of radiological impacts addresses

1 exposure to the public and to occupational workers. As I
2 mentioned earlier, this is a Category 1 issue and there are
3 no Category 2 radiological issues related to license
4 renewal, nor was any new and significant information
5 identified during the course of this analysis. Because this
6 is an issue of considerable public interest, I'll mention
7 the following:

8 The SNC and its predecessor organizations have
9 conducted a Radiological Environmental Monitoring Program
10 around the plant since 1974. The radiological exposures to
11 the public and the environment have been carefully monitored
12 and compared with appropriate standards. The monitoring
13 program is used to verify that radioactive materials and
14 ambient radiation levels attributable to plant operations
15 are within NRC Regulatory Limits and EPA Environmental
16 Radiation Standards; to detect any measurable buildup of
17 long-lived radioisotopes in the environment; to monitor and
18 evaluate ambient radiation levels; and to determine whether
19 any statistically significant increase occurs in a
20 concentration of radionuclides in important pathways.

21 Our review of historical data on releases to the
22 environment showed that doses to the maximally-exposed
23 individual for each pathway in the vicinity of the plant,
24 were a small fraction of EPA's Environmental Limits.

25 In addition to the SNC's Surveillance Program, the

1 Georgia Department of Natural Resources conducts a survey
2 around the site and to a distance of up to 90 miles, to
3 characterize radiation and radionuclides in air,
4 precipitation, vegetation, soil, groundwater, the Altamaha
5 River water, river sediment, and fish. The Georgia
6 Department of Natural Resources concluded that the
7 measurable concentrations were well below levels of concern,
8 and that there was no measurable impact on water, fish, or
9 sea life downstream of Plant Hatch.

10 The GEIS concluded that radiological impacts of
11 license renewal are small. No increase is expected in
12 either public or occupational radiation dose during the
13 license renewal term. Slide 37, please.

14 The next area that we covered was socioeconomic
15 impacts. There are a variety of these impacts that I'm
16 going to discuss here. The first is housing impacts that
17 might result if SNC hired additional employees during the
18 license renewal term.

19 Plant Hatch is considered to be in a low
20 population area. The area does not have any housing growth
21 control measures. SNC has not identified any increase in
22 staffing related to license renewal activities and
23 therefore, does not anticipate changes in the housing needs
24 for Hatch.

25 Additionally, we interviewed real estate

1 professionals in the area and concluded that the impacts on
2 housing during the license renewal period are small.

3 Impacts on public utilities were also considered,
4 both for plant demand and plant-related population growth.
5 The plant does not use municipal water supplies, nor is it
6 expected to indirectly alter off-site water use. Again,
7 they anticipate no significant increase in plant staff for
8 the license renewal term. Therefore, SNC does not expect
9 plant demand to have an effect on water resources and the
10 water supply systems servicing towns surrounding the plant.
11 Slide 38, please.

12 The off-site land use will not be affected since
13 there are no plant-related population-driven changes to the
14 land use. One of the things that we do deal with when we
15 are looking at land use effects is the tax base which is
16 based on taxes on land. A robust tax base tends to draw
17 businesses. So there is certainly an effect in terms of
18 land use if the operations at the plant didn't continue.
19 Right now, the continued operation of the plant will
20 continue to provide a significant tax revenue to Appling
21 County which directly taxes Hatch. This amount currently
22 represents about 68 percent of the Appling County tax
23 revenues. Toombs County also benefits from having a greater
24 percentage of the Hatch workforce living within its
25 boundaries.

1 One of the other items we look at is possible
2 traffic congestion, and it certainly is possible in the
3 future as moderate population growth is anticipated.
4 However, these are not expected to be related to increases
5 in plant employment. Slide 39, please.

6 Historic and archeological resources appear to be
7 unaffected by the renewal of the license, since there are no
8 plans for future land disturbance or structural
9 modifications beyond routine maintenance. There are no
10 known historic properties onsite, and none that are eligible
11 for listing. Slide 40, please.

12 Finally, the last issue in the socioeconomic
13 impacts is environmental justice. Environmental justice,
14 like I was saying earlier, refers to a Federal policy in
15 which Federal actions should not result in a
16 disproportionately high and adverse impact on low-income or
17 minority populations. The staff examined the geographic
18 distribution of minority and low-income populations within
19 50 miles of the plant as recorded during the 1990 census.
20 This evaluation was supplemented with inquiries to the
21 local planning departments and social service agencies in
22 Appling and Toombs Counties.

23 It was found that in general, minority populations
24 are small and dispersed, located primarily in the
25 surrounding towns of Vidalia, Baxley, Douglas, and Waycross.

1 No environmental pathways such as subsistence agriculture,
2 hunting, or fishing were found that would result in
3 disproportionate adverse impacts on these populations from
4 license renewal activities. Slide 41.

5 Now I'd like to talk about water use and quality.
6 Hatch obtains its cooling water from the Altamaha River.
7 The impact of consumptive water loss on the downstream
8 riparian communities is associated with fluctuations in the
9 river elevation -- its surface elevation.

10 Hatch withdrawals during periods of average river
11 flow reduce level about 0.4 inches. During low flow
12 conditions, the withdrawal may be responsible for a decrease
13 of about one inch in surface elevation. Potential water use
14 conflicts due to consumptive loss of stream flow are small.
15 Slide 42.

16 The plant's potable water supply is obtained from
17 three groundwater wells located on site. The plant does not
18 use municipal water supplies. The water quality and level
19 of the groundwater aquifer is not significantly affected by
20 plant use. The water quality of plant discharges is
21 regulated by the plant's NPDES permit -- the National
22 Pollutant Discharge Elimination System permit.

23 The State of Georgia retains the authority to
24 regulate water quality and water supply at Plant Hatch.
25 NRC's decision in this NEPA process does not override the

1 State's ability to regulate water quality or water supply
2 requirements for the facility.

3 We have consulted with the State to ensure that
4 the facility is currently in compliance with the water
5 quality and water supply permits. The State has responded
6 that it is currently unaware of any expected changes in the
7 facility's permits. However, compliance with environmental
8 quality standards and requirements is not a substitute for,
9 nor does it negate the requirements for NRC to weigh the
10 environmental consequences of the alternatives in its NEPA
11 process. Slide 43, please.

12 The environmental issues associated with the
13 uranium fuel cycle and solid waste management were discussed
14 in the GEIS. There are no Category 2 issues associated with
15 this issue. No new and significant information was
16 identified during the Hatch license renewal process. The
17 GEIS has concluded that impacts from the uranium fuel cycle
18 on license renewal are small. Slide 44.

19 Environmental issues associated with
20 decommissioning were discussed in the GEIS, and once again,
21 there are no Category 2 issues related to decommissioning.
22 No new and significant information was identified during the
23 Hatch license renewal review. The GEIS has concluded that
24 impacts from decommissioning on license renewal are small.
25 Slide 45, please.

1 Now to change the pace a little bit, I would like
2 to talk about the alternatives to license renewal. This
3 information is presented in Chapter 8.

4 MR. CAMERON: Mary Ann, can I just interrupt you
5 for one second?

6 MS. PARKHURST: Sure. Okay.

7 MR. CAMERON: Maybe this is a good place before
8 you get into the alternatives, to go back and see if people
9 have any questions about the specific environmental impacts,
10 okay? Could you put that radiological impact slide back up?
11 I thought that maybe that captured most of what Janisse
12 might have been concerned with when she talked about --

13 MS. PARKHURST: Was that Slide 36?

14 MR. CAMERON: -- public health effects. Janisse,
15 I would just ask you if you have any? --

16 MS. PARKHURST: Can we go backward with the
17 slides? Slide 36. It will say, Radiological Impacts on
18 the top. We've got about five or six more to go back.
19 Okay. There we go.

20 MR. CAMERON: All right. Janisse, do you have any
21 questions at this point on this particular slide? This
22 needs to be a starting point for what you termed health
23 effects.

24 MS. RAY: The question is a little more generic.
25 That is the use of your scale for judging. You say the

1 impacts are small, but I haven't seen anything come up that
2 says that such and such a percent falls under small, and
3 such and such a percent falls under large. So all we can do
4 is take your word that in a generic sense the impacts are
5 small. Do you see what I'm saying? We have no real data.

6 MS. PARKHURST: Well, let me just -- there's just
7 one thing that came out of the most recent study, the 1999
8 Monitoring Report on doses from the plant. What they
9 determined was that the estimated whole body doses to the
10 most limiting member of the public was about 0.064 millirem
11 per year based upon vegetation, fish, and sediment. Now
12 that 0.064 millirem per year, if you want a comparison, the
13 normal radiation in our environment from background
14 radiation, runs 300-360 millirem per year for most areas of
15 the country. That equates to about one millirem a day.
16 The amount they calculated here on a yearly basis from
17 vegetation, fish, and sediment was about 0.064 millirem per
18 year.

19 The amount from gaseous and liquid effluent
20 releases is about 0.074 millirem per year. Again, relate
21 that to one millirem a day that we're getting from natural
22 sources.

23 MS. RAY: I'm familiar with Plant Hatch and I
24 understand the dosage -- that the radiation would follow. I
25 understand that dosage information. However, I will say

1 that there have been no epidemiological studies at all about
2 what the health effects within the population surrounding
3 the plant -- within 10 miles or 15 miles -- there have been
4 none. I know that it's not required by the Nuclear
5 Regulatory Commission, but I live here.

6 There's one report where 12 reactors were closed
7 between '87 and '98, and five of those were 70 miles from
8 another nuclear plant. The infant mortality rates in those
9 places fell 15-20 percent. I'm going to give you one other
10 statistic. Calvert Cliffs, since 1990 the death rate of
11 older children has risen and cancer deaths have tripled.

12 So all I'm saying is that I know the statistics in
13 terms of something measuring dosage, but we have no real
14 information about health effects in our community. I know
15 you're not required to do that and I'll forever be appalled
16 at that.

17 MR. KUGLER: Well, there's another report that -
18 -

19 MS. PARKHURST: I don't know. Do we want to
20 further discuss this issue at this moment? I am aware of
21 the report -- of the documents you're talking about. One of
22 the problems with epidemiological studies in general and
23 specifically with something like radiation from plants, or
24 radioactivity from plants and so on, is it's very difficult.
25 It's easy to make associations, correlations with one thing

1 to another, whether it's positive or negative or whatever.
2 It's very difficult to get into cause and effect. This is
3 one of the problems that makes it especially difficult to
4 try to do this on a plant-specific basis. Especially when
5 you don't have enough numbers that would give you
6 statistical quantities to work with, enough quantities.
7 Now, I think really, that's all I've got to say on it right
8 now.

9 Andy, did you want to add anything at this point?
10 Okay.

11 MR. CAMERON: All right. Janisse, do you have a
12 follow-up?

13 MS. RAY: It's not a question, but one idea is to
14 look at cancer rates in a 10-mile radius, and then look at
15 10 miles somewhere else in the coastal plains of Georgia
16 where there is no nuclear plant. Look at cancer rates
17 before the nuclear plant came and then look at them now.
18 Look at them among children, older people, and not just
19 cancer, but other conditions.

20 MS. PARKHURST: Those are good statistical
21 strategies in doing this. Again, one of the difficulties is
22 there is so much that has changed in our environments over a
23 lot of these same years that it's very difficult to tie them
24 into any specific thing. Also, with people moving in and
25 out it's a very difficult process and an expensive one as

1 well -- difficult to do like this, but I appreciate your
2 comment and I understand your concern.

3 MR. CAMERON: Okay. Anybody else in the audience
4 have questions on radiological impacts while we're here?
5 Mary Ann also went through water quantity, water quality,
6 endangered species, and all of those specific types of
7 impacts. I guess I would ask if there is anyone who has any
8 questions on those before she goes on? Janisse, anything?

9 MS. RAY: Does she want to reply to what small
10 means?

11 MR. CAMERON: Okay. Can you talk a little bit
12 about the use of the term small ? I think you might have
13 defined that, but maybe you can explain it a little bit
14 more.

15 MS. PARKHURST: I'll mention it again. This is
16 the terminology from the GEIS. Small means the affects are
17 not detectible or are too small to destabilize or noticeably
18 alter any important attributes of the resource. Okay?

19 MR. CAMERON: All right. Yes, sir.

20 MR. PERSON: What is the next step after small?

21 MS. PARKHURST: Moderate.

22 MR. PERSON: Small then large?

23 MS. PARKHURST: Moderate. In fact, you're headed
24 right to where I'm headed.

25 MR. CAMERON: Let me put you on the record. Why

1 don't you ask that into the microphone? Tell us your name
2 and affiliation if appropriate.

3 MR. PERSON: My name is Jeff Person. I was just
4 wondering what the actual scale was.

5 MS. PARKHURST: The moderate impact is one that is
6 sufficient to alter noticeably, but not destabilize
7 important attributes of a resource. A large impact has an
8 effect that is clearly noticeable and is sufficient to
9 destabilize important attributes of a resource.

10 MR. CAMERON: Mary Ann, I don't know if you can do
11 this, but is there a hypothetical example that you could use
12 that would tell people more graphically perhaps, what a
13 small impact versus a moderate impact, versus a large impact
14 would be?

15 MS. PARKHURST: That sounds like a question for the
16 NRC rather than me specifically to answer. It's their
17 definition that we're using as the scale. Is there
18 somebody -- would you care to answer?

19 MR. CAMERON: Andy, do you know where I'm trying to
20 go with this? I don't know if you could do it, but it might
21 help people understand the difference between small,
22 moderate, and large.

23 MR. KUGLER: I'm not sure if I can do it off the
24 cuff either, but I'll give it a shot.

25 Small is probably the easiest because we deal with

1 a lot of those. An example would probably one that Mary Ann
2 has discussed, which is the effects on the fish due
3 entrainment and impingement in the in-take structure.

4 What we found is that the rate of impingement and
5 entrainment is very small, and that the numbers of fish
6 therefore, that were being entrained and killed were very
7 small and were not enough that you would really even be able
8 to tell that it was happening in terms of the population of
9 fish out in the river. You'd never see it. So that would
10 be small. Those are easy.

11 Large may be relatively easy as well. I guess
12 when we start talking about alternatives, we'll talk about
13 the possibility for replacement power of building a new
14 plant at a new site. Well, to do that you're going to level
15 a number of acres of trees, you'll be drawing water off in a
16 new location. If you're using coal, you'll be dumping all
17 the results of the coal burning into the atmosphere and
18 you'll have your ash piles and all that. All of those
19 things generally, will fall into the large category because
20 you actually have a significant impact upon the resource in
21 that area. I mean, you've taken out all those trees.

22 Moderate, I guess I'd have to say just falls
23 somewhere in between there. Perhaps an example might be
24 building a gas-fired plant in place of Hatch, on the Hatch
25 site and using the cooling water system that already exists.

1 You will have to clear some more land for that,
2 but not a large amount of land. You will be dumping some
3 gases into the atmosphere from the burning process, but not
4 as significantly as you would be in a coal-burning process.
5 So that would fall somewhere in between.

6 It's kind of a rough thing to try to give you an
7 idea of what we mean by those.

8 MR. CAMERON: I believe Mary Ann is going to get
9 into -- when she's looking at alternatives -- she's going to
10 talk about small, moderate, and large, and that will be a
11 further explanation. I don't know if that's helpful to all
12 of you, but any other questions on the specific impacts
13 before we go on to alternatives?

14 MS. RAY: Andy, this may be for you. For the
15 freshwater mussels, how would you do a study? How does the
16 Department of Natural Resources and others look at that? I
17 mean, did you study population sizes upriver, down river?
18 How would that have been done? For the Short-Nosed
19 Sturgeon, my question is how can you say that there is no
20 impact to the Short-Nosed Sturgeon or the freshwater mussel?
21 How would you know?

22 MR. KUGLER: Okay. I think this is a basic
23 explanation of the methodology of how these types of studies
24 are done to get a result.

25 MS. PARKHURST: First, let me mention that we have

1 an aquatic ecologist on our team who got snowed-in at Detroit.
2 He was supposed to be here tonight, and could have answered
3 that much better than we can, but we have enough
4 understanding of the process and in particular with the
5 Sturgeon, that perhaps we can, you know, give you a crack at
6 the answer. Again, we have been through the process and our
7 aquatic ecologist can respond to this in the final document.

8 MR. KUGLER: Okay. We submitted a biological
9 assessment to the National Marine Fisheries Service where
10 we took a look at what we considered would be the potential
11 effects on the Short-Nosed Sturgeon. I'm trying to recall
12 some of the details of that. This isn't something I worked
13 on directly.

14 I know some of the things we looked at for
15 instance, is that the areas that they tend to exist in
16 the river -- they aren't really seen around the plant that
17 much, but there are certain areas that they go to. They
18 spend most of the summer, I believe, down toward the area
19 where there's an interface between the ocean and the river.
20 As winter comes on, they don't like the cold water very much
21 and they tend to go into certain locations -- deep holes
22 mostly in the riverbed, where they can basically stay quiet
23 most of the winter. They don't move around much in the
24 winter. They don't eat a lot in the winter.

25 What we found was that these areas that they

1 appeared to go to, based upon information that was gathered
2 from various sources, don't exist right around the plant.
3 It also isn't an area where they tend to spawn. They tend
4 to spawn further upriver, I believe. So based on that
5 information and the fact that the effects of the plant on
6 the river itself are very localized in terms of temperature,
7 that was really mostly the basis, I believe, for our
8 conclusion in our biological assessment. The details are in
9 that assessment, which is included as Appendix E, I believe,
10 or part of Appendix E in the draft. So you can take a look
11 at that as well. It has more detail.

12 MR. CAMERON: Let's go on with the rest of Mary
13 Ann's presentation, and then we can ask questions on that
14 part of it as well as others.

15 MS. PARKHURST: Okay. Back to Slide 45, please.

16 Review of alternatives is especially important to
17 the NEPA process. Because there are many possible energy
18 sources and mixes of energy sources, we had to limit the
19 analysis and we limited it to those with demonstrated
20 capability and with sufficient generating capacity to
21 replace the energy generated by the Hatch Nuclear Plant.

22 The alternatives also include a no-action
23 alternative, which would simply mean that NRC would not
24 renew the operating licenses and SNC would decommission the
25 plants after operations cease.

1 Two of the alternatives that we considered that
2 hold the most promise for large-scale replacement of power
3 are coal-fired power generation and gas-fired power
4 generation. We looked at the impacts of these alternatives
5 and evaluated them using several options. Slide 46, please.

6 If we had as an alternative, a coal or gas plant
7 located at Hatch site, say if we put the plant at that site
8 and we located it there, that's one option. A second option
9 we looked at was what's considered a green field site, a
10 place that, say we closed the Hatch site and opened a new
11 site in a more pristine environment in terms of the
12 industrial base already there. We also looked at cooling
13 tower use versus once-through cooling. So we really had
14 four major options. The coal-fired with cooling towers and
15 with the once-through cooling, and gas-fired power stations
16 with cooling towers and once-through cooling.

17 On this slide and on the next slide -- Slide 47,
18 please, you can see the alternatives that we did evaluate,
19 including the ones I have mentioned in coal, gas, and
20 nuclear. The other alternatives were not evaluated in-
21 depth, either because they do not have the generating
22 capacity to replace the plant, or the capability at this
23 point in time. Slide 48, please.

24 The alternative actions, including the no-action
25 alternative, have environmental effects that reached moderate

1 or large significance at least in some important categories.
2 A moderate impact, as I was saying earlier, is sufficient to
3 alter noticeably, but not destabilize important attributes
4 of a resource. A large one is clearly noticeable and is
5 sufficient to destabilize an important attribute of a
6 resource. Let me go back and remind you what a small
7 impact is. Small means the effects are not detectible, or
8 are too small to destabilize or noticeably alter important
9 attributes of the resource.

10 A moderate impact is one that is sufficient to
11 alter noticeably, but not destabilize important attributes
12 of a resource.

13 A large impact has an effect that is clearly
14 noticeable and is sufficient to destabilize important
15 attributes of the resource.

16 Now there's a table in the document. There's
17 several in Chapter 8, but there is one in Chapter 9 -- it's
18 Table 9-1 -- that gives a listing of the different primary
19 options and it includes one that's called the combination.
20 It talks about what ranking we gave it, whether it's small,
21 medium, or large. If you want to get a little better feel
22 for how we chose to identify these, it's indicated here and
23 then back in Chapter 8. There's usually a little more
24 description that helps substantiate the reason for it.
25 Largely again, a lot of them would take up more

1 land that's not currently cultivated or is forested, or
2 whatever, or its water use would be more than is currently
3 required at Hatch.

4 For the most part the impacts on land use and
5 ecology range from moderate to large for coal-fired and
6 gas-fired generation because additional land would be
7 required for the facilities, land that's currently
8 vegetated.

9 Depending on where the site is located, the
10 impacts on water quality might increase to large, especially
11 if it's located in an area that would require groundwater
12 for cooling.

13 I want to mention like I said, that we did look at
14 combining alternatives, such as conservation, purchased
15 power, and new generation. It is conceivable that a certain
16 mix of alternatives might at some time in the future be
17 capable of cost-effective replacement energy. However, it
18 is unlikely that the environmental impacts of all aspects of
19 such a hypothetical mix could be reduced to small. In
20 comparison, the impacts of renewing the Hatch licenses are
21 small in all categories. Slide 49, please.

22 Finally, to summarize our preliminary conclusions
23 from our environmental review. In contrast to the
24 conclusions that were reached for the alternative actions,
25 the preliminary conclusions for the proposed action of

1 renewing the licenses for Hatch Nuclear Plant, are that the
2 environmental effects of license renewal are small for all
3 impact categories.

4 We include the word preliminary, because we are
5 planning to use any additional information we receive during
6 this meeting and the following comment period, before
7 issuing our final report.

8 Back to you, Chip.

9 MR. CAMERON: All right. Thanks, Mary Ann.
10 Before we go on to Accident Mitigation Alternatives, any
11 questions on the material that Mary Ann presented? Okay.

12 Next we are going to have Mike Snodderly from the
13 NRC staff to talk about SAMAs. He'll tell us what those are
14 too, right?

15 MR. SNODDERLY: I'll sure try, Chip.

16 MR. CAMERON: All right.

17 MR. SNODDERLY: Thank you very much. Good
18 evening. My name is Mike Snodderly. I'm a reactor
19 systems engineer in the Probabilistic Safety Assessment
20 Branch of the Nuclear Reactor Regulation Office.

21 First of all, I'd like to say I appreciate your
22 interest in the Draft Environmental Impact Statement, and as
23 Mary Ann mentioned, I'm going to be covering the material
24 that is in Chapter 5 of the Draft Environmental Impact
25 Statement. Specifically, I'll be describing our review of

1 the environmental impacts of postulated events during the
2 license renewal period.

3 During our review we considered two classes of
4 events, design basis and severe. Both of these classes of
5 events have been shown to pose no undue risk to the public
6 health and safety because core damage is either prevented,
7 or the probability of such events has been shown to be
8 small. Later in my presentation I'll discuss what is small
9 relative to other risks that we as a society face every day.

10 Let's first discuss design basis events, which are
11 postulated events that a plant is designed and built to
12 withstand without allowing core damage, thereby eliminating
13 the consequences of the event.

14 For example, Plant Hatch has been designed with
15 core cooling systems to accommodate an instantaneous break
16 of the largest reactor coolant pipe with loss of one power
17 train. However, the accident at TMI-2 reaffirmed that core
18 damage is possible.

19 We refer to postulated events with core damage as
20 severe accidents. Severe accidents are primarily due to a
21 failure of core cooling systems, and generally involve a
22 combination of multiple hardware failures and human errors.
23 So in the cases of design basis events, we're talking about
24 a single initiating event that the plant is designed to
25 respond to. Severe accidents would be multiple events on

1 top of that in order for a severe accident to result. Now
2 the Nuclear Regulatory Commission has set out to verify that
3 the risk from this class of events -- meaning severe events
4 -- was a small fraction when compared to risks that we are
5 generally exposed to, such as driving, swimming, flying, or
6 generating electricity from coal. A small fraction has been
7 defined as one-tenth of one percent. That's the goal that
8 we would like to reach. So to determine whether we are
9 meeting that goal of one-tenth of one percent of the risks
10 from prompt fatalities that come about from driving
11 accidents, or plane crashes, swimming accidents, and
12 generation of electricity from coal; looking at the latent
13 cancer effects and the early fatality effects that are
14 associated with those types of events, we want to make sure
15 -- our goal is that it be one-tenth of one percent of those
16 fatalities.

17 Now I want to make clear at the beginning of this
18 section that no death or fatality attributable to nuclear
19 power operation will ever be acceptable in the sense that
20 the Commission would regard it as a routine or permissible
21 event. What we are discussing this evening is acceptable
22 risks, not acceptable deaths. In any fatal accident, a
23 course of conduct posing an acceptable risk at one moment
24 results in an unacceptable death moments later. This is

1 true whether one speaks of driving, swimming, flying, or
2 generating electricity from coal. Each of these activities
3 poses a calculable risk to society and to individuals. Some
4 of those who accept the risk, or are part of a society that
5 accepts the risks, do not survive it.

6 We intend that no such accidents will occur, but
7 the possibility cannot be entirely eliminated. So how do we
8 go about quantifying to determine if we are meeting that
9 goal? What we did was in 1988, we requested all of the
10 existing plants to perform what is called an individual
11 plant examination. So using reliability data, in other
12 words, they had been running pumps, and using valves, and
13 monitoring this equipment, they have a certain idea of when
14 these components fail and how reliable they are. By
15 modeling all the components and their ability to prevent
16 core damage, they can then quantify a frequency of when they
17 expect core damage to occur -- not when they expect it to
18 occur, but just to quantify it in regards to events per
19 year, and then take these and compare them to the staff's
20 safety goals. This examination -- the individual plant
21 examination -- has evolved into the Probabilistic Safety
22 Assessment at Plant Hatch.

23 Thus far, the results of these examinations have
24 confirmed that U.S. nuclear power plants, including Plant
25 Hatch are consistent with the Commission's safety goals, and

1 that the frequency of core damage events are extremely
2 unlikely.

3 Now that I've given you some background of what a
4 design basis event is and what a severe accident is, let's
5 look at how we've addressed these in the Environmental
6 Impact Statement. Slide 51. Thank you very much.

7 Design basis events were not shown to be
8 significant contributors to risk. This is not surprising
9 because the plant has been designed to withstand the
10 consequences of these events as we talked about earlier. So
11 if you prevent core damage you eliminate the consequences
12 and therefore, we have concluded on a generic basis that the
13 existing design basis events are appropriate for the period
14 of extended operation. Because this was concluded on a
15 generic basis, it is considered a Category 1 issue, as Mary
16 Ann discussed earlier what the difference is between a
17 Category 1 and a Category 2 issue.

18 With regard to severe accidents, we evaluate
19 whether there are any cost-beneficial safety improvements
20 that need to be implemented as part of the license renewal.
21 We refer to these potential improvements as Severe Accident
22 Mitigation Alternatives, or SAMAs. Slide 52, please.

23 The purpose of this evaluation is to ensure that
24 plant changes that reduce the risks associated with severe
25 accidents are identified and assessed. We consider

1 alternatives that either reduce the likelihood that an
2 accident will occur, or that reduce the consequences of an
3 accident. We don't focus purely on mitigation after an
4 accident. The alternatives can be in the form of hardware
5 changes, procedural improvements, or training. So this is a
6 very broad search. Slide 53, please.

7 Now I would like to explain the basic process that
8 was used to identify and evaluate Severe Accident Mitigation
9 Alternatives. We relied heavily on the Plant-Specific Risk
10 Studies to identify sources of risk at the plant. There
11 were studies for both internally initiated events such as
12 the pipe break that we discussed before, or losses of off-
13 site power, such as when the electricity goes out in your
14 home, a series of events that pose the most risk for a plant
15 such as Plant Hatch, would be those associated with the loss
16 of all power. So we want to see how likely those events
17 are. In addition, we looked for insights that came from
18 generic studies and plant-specific studies that have been
19 performed for other plants.

20 With the sources of risk identified, the next step
21 was to identify improvements that could reduce the risk.
22 Again, the Hatch-specific studies were the most important
23 source of potential improvements, with additional insights
24 from studies that were not specific to Hatch. The
25 risk-reduction potential and costs for the improvement were

1 then quantified.

2 The staff's regulatory analysis guidelines are
3 used to provide a consistent methodology so that when we
4 complete the license renewal process, what we did for a
5 plant in the Northeast or the Northwest is the same as what
6 we used for Plant Hatch. Slide 54.

7 Now let's look at how this approach was
8 specifically applied to Plant Hatch. Candidate improvements
9 that either did not apply to Hatch or had already been
10 implemented were eliminated. Improvements that did not
11 significantly reduce total risk were then eliminated. The
12 minimal risk-reduction candidates were related to mitigation
13 of Inter-System LOCA and recirculation pump leakage.

14 Inter-System Loss of Cooling Accidents and
15 recirculation pump leakage are important for pressurized
16 water reactors, but contribute little risk to boiling water
17 reactors which is the type of the Plant Hatch design. That's
18 because they operate at lower primary pressures, typically
19 about half the pressure of a pressurized water reactor.

20 Then each remaining improvement was assessed and
21 assigned a level of risk reduction and an estimated cost.
22 The risk reduction was converted into a dollar value to
23 allow a comparison between the benefits of the risk
24 reduction and the cost. The improvements for which the cost
25 was clearly higher than the benefits, were eliminated early

1 in the process. Meaning the implementation costs were
2 greater than the maximum benefit associated with eliminating
3 all severe accident costs.

4 The final criterion considered is whether the risk
5 reduction is associated with aging effects during the period
6 of extended plant operation. This environmental assessment
7 was looking at the impact of extending the plant operation
8 for another 20 years. So when we looked at improvements
9 related to Severe Accident Mitigation Alternatives, we were
10 trying to focus on those alternatives whose benefits are
11 driven by aging effects.

12 Any candidate improvement with a favorable cost
13 benefit ratio that is not associated with aging effects,
14 would be processed by the staff under the plant's current
15 operating license. Slide 55, please.

16 Now let's look at the results of the improvements
17 that were looked at. Over 100 candidates were identified
18 for subsequent evaluation. Of these, 22 were already
19 implemented as part of the individual plant examination
20 process or on the licensee's own initiative. I think this
21 is the key point I'd like to make to you all this evening.
22 That is as I mentioned, this process of looking at plant
23 risk really began back in 1988 when we requested that all
24 existing plants, including Plant Hatch, perform the
25 individual plant examinations. As a result of that process,

1 22 mitigative alternatives were looked at and were
2 incorporated into the plant design. Now if all plants had
3 completed their individual plant examinations, I believe
4 that Severe Accident Mitigation Alternatives would have been
5 categorized as a Category 1, instead of a Category 2 issue.
6 That is because the Category 1s remember, are looked at
7 generically and Category 2s are plant specific. Because all
8 the individual plant examinations have not occurred as they
9 have at Plant Hatch, to make sure that all these
10 alternatives will be looked at to see if they are cost-
11 beneficial at other plants, it was designated a Category 2
12 issue.

13 In addition, 27 had a clearly negative net value,
14 and 56 were determined to be not applicable to the Plant
15 Hatch design, or they offered minimal risk reduction as we
16 talked about earlier. More detailed evaluations were
17 performed for the nine remaining improvements, resulting in
18 the determination that none of the potential improvements
19 had a favorable cost-benefit ratio. Again, I want to go
20 back to this 22 that were implemented. I think that was
21 because, I'll call them the low-hanging fruit, or the
22 alternatives that were most cost-beneficial have already
23 been done. So I think that's one of the reasons that we
24 didn't really expect to identify a lot of additional
25 alternatives to be cost beneficial.

1 To sum up the results then, our overall conclusion
2 is that additional plant changes to mitigate severe
3 accidents are not required as part of the license renewal.
4 Thank you.

5 MR. CAMERON: Thanks a lot, Mike. Questions from
6 anybody about severe accidents or that particular analysis?
7 All right. Janisse --

8 MS. RAY: I need to have one example of one of
9 those nine things that have no negative -- they have no
10 boundaries to them.

11 MR. SNODDERLY: Janisse, do you have a copy of the
12 report? Do we have an extra copy in the back so that we can
13 give her one?

14 MR. CAMERON: Yes. We'll get one, but I think it
15 would be helpful to understand it -- just examples of some
16 of the site changes.

17 MR. SNODDERLY: I think all nine are described in
18 the Draft Environmental Impact Statement.

19 MR. KUGLER: At 5-13.

20 MR. SNODDERLY: At 5-13, there are the nine that
21 we looked at in detail. You can see the -- you come up with
22 a -- the CDF is core damage frequency reduction. Well,
23 let's start on the left side. The SAMA, that's just a short
24 description of the change. Then there's a description of
25 the potential enhancement, quantification of how much the

1 core damage frequency would be reduced, and then also if it
2 resulted in a release to the environment, the person-rem
3 reduction improvement. Then the total benefit when we
4 put those results into our regulatory analysis guidelines,
5 what the total benefit would be calculated to be, and then
6 implementation cost. When the cost is greater than the
7 total benefit, the proposed change would not be
8 implemented. We found that these nine were not
9 cost-beneficial, but again, I'd like to focus, Janisse, on
10 the fact that most of the improvements that would be
11 identified as a result of the Probabilistic Safety
12 Assessments, were already incorporated before we did this
13 review.

14 So this was just a check to make sure there was
15 nothing further that needed to be done. Okay?

16 MS. RAY: Will there be some periodic looking at
17 this?

18 MR. SNODDERLY: Yes.

19 MS. RAY: Some of this stuff looks like it could
20 be important and I don't know exactly how you would get a
21 figure for total benefit of all of this. For example,
22 providing reliable to the fans. So are you going to revisit
23 it after another two years or whatever?

24 MR. SNODDERLY: Well, let me -- let's say -- First
25 of all, you have to understand that there are already three

1 or maybe even four ways to presently provide power to
2 that -- Which example were you talking about?

3 MS. RAY: It's the second one on that list.

4 MR. SNODDERLY: Yes. There's already, I think,
5 four ways to provide the power to the fans. Now we're
6 talking about adding a fifth way. So you can see at some
7 point, there is a point of diminishing return, and what
8 we're doing is making sure that those four result -- they
9 give us that core damage frequency that is low enough
10 relative to again, the safety goals that the Commission has
11 established. The goal is for core damage frequency of one
12 in every 10,000 years. So that's 10 to the minus 4th
13 frequency, and Plant Hatch is at 1.6 times 10 to the minus
14 5th, which is considerably below that. So that's another
15 reason why we didn't expect to find any cost-beneficial
16 alternatives, but we wanted to take a look to make sure.

17 Now the other point I wanted to make to you. The
18 Probabilistic Safety Assessment is -- even though this
19 report is going to become final -- the Probabilistic Safety
20 Assessment has become a very important tool to the
21 Commission and also I believe, to the utility. It's a
22 living document because as the plant operates, you get more
23 and more reliability data and you may find that some things
24 that -- as a matter of fact, things that used to be very
25 important to the plant because they were looked at more

1 closely, say emergency diesel generator reliability, at one
2 time we realized that was a problem, or that's where
3 improvements could be made. That's where a lot of the risk
4 at the plant was.

5 So by improving the reliability of that component,
6 that risk went way down, but then something else relative
7 kind of pops up. So the Probabilistic Safety Assessment is
8 a living document. It is a thing that is going to be
9 constantly changing and giving us insights to improve our
10 resources and how we look at the plant, and also how Plant
11 Hatch decides on where it is going to put its resources, and
12 what are the most important parts of the plant to look at
13 and improve? So it's been a very good tool for us and one
14 that we're going to continue to develop and improve.

15 MR. CAMERON: Okay.

16 MS. RAY: I don't want to take up all the time,
17 but what you're saying to me is, you know Hatch has a
18 history of accidents including this past year. Are you
19 saying that all those things have been looked at and they
20 are among the 22 different things that misfired or did not
21 work? Those things have been fixed? Is that what you're
22 saying?

23 MR. SNODDERLY: Well, I'm saying -- I can't --
24 Well, the 22 things that we've talked about were possible
25 plant improvements that should be considered. When Plant

1 Hatch considered those improvements and the cost of them,
2 they said that makes sense and they implemented those
3 improvements. Now those aren't linked specifically to an
4 accident per se.

5 In other words, it would be something like more of
6 a physical plant change. Something that you're changing to
7 the plant. To put in an improved, a more highly-reliable
8 pump and that's how you then reduce the core damage
9 frequency and the possibility of that particular accident
10 group.

11 MR. CAMERON: Andy, are you going to perhaps put
12 that in perspective a little bit for us?

13 MR. KUGLER: Okay. I'd like to say. Where you
14 have operational events that are reported, those issues may
15 or may not be that significant in terms of risk. Our
16 reporting requirements are fairly stringent, so something
17 may show up there that, while it's reportable to us, does not
18 really show up in risk space. So the improvements that we're
19 talking about may have nothing to do with some of those
20 things that have been reported. On the other hand, they
21 may, but in general, what we're saying is that where they
22 found that improvements would be cost beneficial, they've
23 already implemented those.

24 When they did this review they went back and
25 looked again, and we looked at it and found that there were

1 no additional improvements that would significantly reduce
2 risk enough to be cost beneficial. Operational events will
3 continue to occur. Individual components may fail, but the
4 plant is designed to survive events with the failure of
5 active components. If something fails, we've built that
6 into the plant. That's why there is so much equipment
7 there. There is a lot of redundant equipment.

8 MR. CAMERON: Those operational events are not
9 accidents.

10 MR. SNODDERLY: But those operational events are
11 considered as part of the significance determination
12 process, which does use the Probabilistic Safety Assessment
13 to determine the significance of that event. So some events
14 may not be -- that's where you put it in to see how close
15 you came to core damage. In general, I'm not aware of any
16 event at Plant Hatch in the last year that wasn't evaluated
17 as part of that process and determined not to have a
18 significant increase.

19 MR. CAMERON: Okay. Let's go on to Andy for some
20 preliminary conclusions and we may have some people who want
21 to make some formal statements. I would invite everybody to
22 stay around after the meeting to talk with the NRC staff
23 about any of the conclusions that came out of it. Andy --

24 MR. KUGLER: Thank you, Chip.

25 Okay. To summarize, Supplement 4 to the Generic

1 Environmental Impact Statement contains the staff's review
2 of the potential environmental impacts of renewal of the
3 Hatch licenses, along with our preliminary conclusions. I'm
4 sorry, Slide 58. Thank you.

5 The last bullet on this slide is to remind you
6 that the overall decision of the Agency concerning license
7 renewal at Hatch, Units 1 and 2, will be based not only on
8 the environmental impact review, but also on the results of
9 the safety review. Slide 59.

10 Which brings us to our preliminary conclusions
11 that based on the findings in the GEIS, Southern Nuclear's
12 Environmental Report, our consultation with local, State, and
13 Federal agencies, and our own independent review, including
14 the evaluation of comments received during the scoping
15 process -- Slide 60.

16 The staff concludes that the adverse environmental
17 impacts of license renewal for Hatch, Units 1 and 2, are not
18 so great that preserving the option of license renewal for
19 the energy-planning decision makers would be unreasonable.

20 So that gives you our preliminary conclusion. Now
21 we are looking for input from members of the public. Slide
22 61.

23 The period for providing comments on our Draft
24 Environmental Impact Statement will end on January 24, 2001.
25 After the comment period ends, the staff will assess all the

1 comments that we have received; those at these meetings and
2 the written comments that we receive, and determine whether
3 they are applicable to the environmental aspects of license
4 renewal. If appropriate, some comments may cause us to
5 change the Draft Environmental Impact Statement.

6 In the final version of the Environmental Impact
7 Statement, we will include in Appendix A the comments that
8 we received, and how we dispositioned those comments. So
9 you will be able to tell how your comments were addressed in
10 the Environmental Impact Statement.

11 Also, as we did with the comments received during
12 the scoping period, issues that do not have a bearing on the
13 environmental impacts of license renewal will be referred to
14 the appropriate NRC Program Manager -- for example, the
15 Operating Plant Project Manager in the Office of Nuclear
16 Reactor Regulation or the Allegations Coordinator. These
17 issues might also be referred to other agencies that might
18 have an interest in them. Slide 62.

19 This slide gives you our current schedule for the
20 environmental review for Hatch. As you can see, after the
21 NRC finalizes its review we plan to issue the Final
22 Environmental Impact Statement in July of 2001. Slide 63.

23 This slide provides you with contact information,
24 including my phone number, in case you have any questions
25 after this meeting is over. I am the designated point of

1 contact in the NRC for the environmental portion of the
2 license renewal review. All of the documents that we spoke
3 about today can be viewed on the NRC's home page on the web.

4 In addition, the Appling County Library in Baxley
5 has agreed to make a copy of the Draft Environmental Impact
6 Statement and of the Southern Nuclear application, available
7 to the public. If you have not received a copy of the Draft
8 Environmental Impact Statement, we do have extra copies
9 available in the lobby. Also, copies can be obtained from
10 the Government Printing Office. Slide 64.

11 Comments on the Draft Environmental Impact
12 Statement may be submitted by mail, in person, or by E-mail
13 at the addresses shown on this slide.

14 Finally, in closing I would like to thank you all
15 for coming here this evening and for giving us your
16 attention. Your participation in this process is very
17 important to us because we know that you understand the area
18 much better than we do. I want to thank you for your help.
19 Chip --

20 MR. CAMERON: All right. Before we go to the
21 formal statements, let's see if there is any final questions
22 on the presentations that we heard. Anybody have anything
23 final to say?

24 MS. RAY: You say that the adverse environmental
25 impacts are not so great that preserving the option of

1 license renewal for energy-planning decision makers would be
2 unreasonable. So what you're saying is that you're
3 preserving the option for the decision makers.

4 MR. KUGLER: What we're trying to say is we are
5 the authority that would grant an extended license if we do
6 that. That would give the licensee an option to run for an
7 additional 20 years. However, there are other organizations
8 that may have some say in that, including Southern Nuclear
9 itself. If they determine it's not cost effective to
10 continue to operate, then they would decide most likely to
11 shut the plant down. If the State regulators found some
12 reason why it was not appropriate, for instance, the Public
13 Utility Commission, or the equivalent here in Georgia, that
14 might also impact whether the plant actually operates for
15 that additional 20 years. What we are doing is extending
16 the license, but that doesn't mean the plant will
17 necessarily operate for that full 20 years. That's not our
18 call.

19 MS. RAY: I just have two statements to make while
20 I'm at it. One is I think that you guys are the
21 energy-planning decision makers and that we should be really
22 honest here and say that you're doing it for a corporation.

23 The other thing that -- I've forgotten it. Oh, I
24 want to ask you, what is the possibility, and I'm asking you
25 to be honest -- What is the possibility for Southern Company

1 saying, okay, this is not economically feasible? I know you
2 can't really say, but I'm asking you to be as honest as you
3 can in public.

4 MR. KUGLER: Well, I guess what I'd say is that
5 the best I could determine is that it would be unlikely.
6 When you have a plant that has been built and in this period
7 I would assume it's paid for, the odds of some other option
8 being more cost effective are pretty small. I'm not going
9 to say it couldn't happen and therefore, all we're really
10 saying is if we grant the renewed license, you have our
11 permission -- assuming you continue to meet all the
12 regulations -- you have our permission to continue to
13 operate for this additional period.

14 The decision to actually run the plant is an
15 economic one, and that's not our call. We only decide
16 whether it's safe and environmentally acceptable, but we
17 don't determine whether it's economically the best decision.
18 That's up to others. So that's what I'm trying to say I
19 guess. The economic decision is not our call.

20 MR. CAMERON: It might be useful before we go to
21 formal statements, to just put this into context so people
22 don't think that the decision has been made.

23 MR. KUGLER: Right. Well, I've been trying to say
24 "if".

25 MR. CAMERON: Okay. There is a preliminary

1 conclusion in the Draft Environmental Impact Statement.
2 Comments are going to come in on that NRC evaluation and
3 preparation of a Final Environmental Impact Statement, that
4 goes with the Safety Evaluation Report that Butch talked
5 about -- inspection findings, ACRS Report -- only then will
6 there be a staff decision or recommendation on license
7 renewal. Then the Commission has to look at that. So we're
8 still fairly early, okay? I think it's important for people
9 to realize that. Cindy, do you want to say something?

10 MS. CARPENTER: I think it's important what Chip
11 just said. The staff will send the safety evaluation and
12 the Environmental Impact Statement -- the final and will
13 make the recommendations to the Commission.

14 It's up to the five members of the Commission to
15 decide whether to allow the extension itself based on the
16 documents giving the staff's recommendation.

17 MR. CAMERON: Okay.

18 MS. CARPENTER: Is there anybody here tonight from
19 Southern Company?

20 MR. CAMERON: Oh, yeah. In fact, we're going to
21 be introducing one person from Southern Company who's going
22 to make a statement in a minute.

23 Again, after the meeting is over, NRC staff, staff
24 from Pacific Northwest Labs -- please feel free to talk to
25 those people, as well as the people from the Southern

1 Company also. Okay?

2 Let's go to -- are we ready to go? Go ahead
3 Cindy.

4 MS. CARPENTER: You asked about the economic
5 viability. There are some utilities who have decided that
6 it is not economically feasible to run a nuclear power plant
7 and they have shut the plants down. So the decision is the
8 licensee's as to whether they go forward or not. As we go
9 into deregulation, this is a very big issue, but it is their
10 decision. All we do is say that the plant is safe to
11 operate, okay? Some utilities have shut down because of
12 that.

13 MR. CAMERON: Okay. Let's go to Mr. Lewis Sumner,
14 vice-president of the Hatch Nuclear Project, for our first
15 formal statement.

16 MR. SUMNER: Thank you, Chip. Let me make a
17 comment that I worked at Plant Hatch for about 22 years. I
18 came in as an entry-level engineer. I have a master's
19 degree in nuclear engineering and a bachelor's degree in
20 mechanical engineering from Georgia Tech. My final position
21 before I left the plant was Plant Manager. So I've held
22 various positions there and have a pretty good understanding
23 of how the plant operates, being also licensed at the plant
24 for 10 years while I was there.

25 The first thing I'd like to do is thank the NRC

1 for their review. I think their review has been very
2 comprehensive. I think the conclusions that have been arrived
3 at, at least of a preliminary nature, match up pretty well
4 with what we found when we did our review. If you look at
5 the impact on the environment that Plant Hatch has, it's
6 pretty benign compared to what you would find for maybe
7 other sources of generating electricity.

8 I also want to thank them for clarifying a couple
9 of points. At least one was made in this session. That is,
10 we have a pretty, I guess, agreed upon definition of what an
11 accident is. There have been no accidents at Plant Hatch.
12 We do have operational events and every plant has
13 operational events. There are ways that you report those
14 and we have requirements that we notify the NRC on those
15 particular operational events.

16 There was also a statement made in the previous
17 session that alluded to some radioactive water vapor that we
18 give off. I think that's a technical misunderstanding of
19 the way the cooling towers work, and the circulating water
20 system works. We don't release radioactive water vapor. I
21 just think that needs to be clarified here. That's really
22 a technical misunderstanding of how the plant operates.

23 We wouldn't be moving forward with this unless we
24 felt like it was the right thing to do for a lot of reasons.
25 We have been working on this particular project since around

1 December of '96, and we've put a lot of effort into
2 evaluating whether this was the right thing to do for the
3 Southern Company, for the State of Georgia, and for the
4 nation. I think the report demonstrates the same
5 conclusions that we have reached, and that is that the
6 effects of the plant on the local environment are pretty
7 reasonable.

8 The people that operate and maintain Plant Hatch
9 also live in this area. So the environment that is being
10 influenced by the operation of Plant Hatch is the same
11 environment that these people raise their families in, that
12 I raised mine in when I was here, and that they recreate in
13 -- the local area around here. So the environment that this
14 report is reporting on that shows what the effects are is
15 the same environment that the people that operate the plant
16 also live in.

17 We are committed to being a good neighbor while we
18 carry out our mission of generating electricity. We believe
19 we are a major contributor to the local and the State
20 economy, as well as to the quality of life by supplying
21 electrical energy to power those things that we have become
22 very accustomed to, like the lights that are on making this
23 meeting possible as we sit here right now, computers that
24 connect us to the outside world through the Internet, and
25 allow us to be more productive and do some of the things,

1 and some of the analysis and evaluations that couldn't be
2 done any other way without the use of computers. Also for
3 such things as keeping us warm when it's cold outside, and
4 keeping us cool when it's hot outside. So we think we
5 provide a very valuable commodity here for the local area
6 and for the State.

7 I want to thank the neighbors that we serve that
8 have gladly supported us also in the various endeavors that
9 we've had to be a part of the local environment. We
10 continue to work very hard to be good environmental stewards
11 and we continue to be, we believe, a significant contributor
12 to the prosperity of the local economy.

13 We also believe that we promote the security of
14 reliable electrical power by being an alternative means of
15 generating electrical power for this area. Demand for
16 electrical energy continues to be strong in this area of the
17 country. We need to continue to meet this in order to
18 sustain the economic growth and maintain the electrical grid
19 security.

20 Each means that you may pick to generate
21 electrical power is going to bring with it it's own unique
22 set of environmental issues. I don't foresee that there is
23 going to be a decreasing demand for electricity during the
24 period of time that's going to be bounded by the renewed
25 license period from Plant Hatch. So that electricity is

1 either going to come from Plant Hatch or from some other
2 source out there. We've got 25 years of experience with
3 operating the plant and I believe we fully understand what
4 the environmental impact is of the plant based on that and
5 the studies that we've done.

6 I think the plant will continue to operate in the
7 same manner in the renewal period as it has over the last 25
8 years. I believe its impact on the environment will not be
9 measurably different from what we've already experienced.
10 So I believe that renewing the license of Plant Hatch for
11 another 20 years is the best solution for meeting the future
12 electrical energy needs of this area of the country. Thank
13 you.

14 MR. CAMERON: Thank you very much, Mr. Sumner.
15 Next let's go to, is it Otha -- Otha Dixon?

16 MR. DIXON: Yes. I can only speak about Plant
17 Hatch from layman's terms. I'm a business man here in town
18 at the Holiday Inn Express, but I do want to tell you that I
19 moved here in 1969 to help build Plant Hatch. I was working
20 indirectly with Georgia Power at that time.

21 I'd just like to say first off, the guidelines
22 imposed on us while building Plant Hatch were guidelines
23 that I'd never seen in construction. I never thought we'd
24 get the plant built under such strict guidelines and the
25 ways we had to build the plant, but I feel very comfortable

1 about how the plant was built. I think it's sound. I think
2 it's as safe as anything I've ever seen. I've never seen
3 anything that was built even close to that in the fossil
4 fuel business anywhere else.

5 After we built this plant, I also decided to stay
6 here. I could live anywhere in the State, but I decided to
7 stay here in Vidalia. I like Vidalia and I wanted to raise
8 a family here, so I felt comfortable enough to raise a
9 family here. I fished and I hunted on the river. I'm a
10 hunter and a fisherman. My son is a hunter and a fisherman.
11 I taught him to hunt and fish around Plant Hatch. Since
12 '69, I've been hunting and fishing there. I haven't seen
13 anything that I thought changed the environment. I think I
14 catch as many fish now as I caught in '69. The only thing I
15 see different is maybe there's a few more homes down that
16 way, but I don't see any difference in the deer population.
17 I don't see any difference in any of it. It just seems the
18 same as it always was. I still do about the same things.

19 As far as one thing that I'd like to say from a
20 businessman's standpoint, the economic impact that Plant
21 Hatch has on us is great. Of course it provides salaries
22 for a lot of people in the surrounding areas, as well as it
23 provides taxes for the infrastructure where we can bring
24 more business into our area.

25 I just want to say that I feel very comfortable

1 with Plant Hatch, and I appreciate what Plant Hatch has
2 brought to this area. Thank you.

3 MR. CAMERON: Okay. Thank you, Mr. Dixon. Mr.
4 Lindell -- Cole Lindell --

5 MR. Lindell: That was close, Chip. It's Cole
6 Lindell.

7 MR. CAMERON: I'm sorry.

8 MR. Lindell: Half was right. I'm with the
9 Municipal Electric Authority of Georgia. We are co-owners
10 of Plant Hatch. 48 communities in Georgia invested
11 \$3 billion, that's with a b, in Plant Hatch and Plant
12 Vogtle during the construction of these plants.

13 We are also part-owner of a couple coal-fired
14 units near Atlanta, some combustion turbines, and some
15 hydroelectric power, but our nuclear fleet provides the most
16 cost efficient and reliable base for our operations. We
17 rely on the nuclear fleet and then bring the other units on
18 to provide power as needed.

19 The present rolling brownouts and blackouts in
20 California, and the price spiking that they saw in San Diego
21 last summer, reflect the wisdom of the people that initially
22 designed, certified, and built Plant Hatch.

23 As an example, last week during our mini cold
24 snap, we were selling power at \$180 a megawatt. That's 10
25 times the normal cost. I think we were shipping it down to

1 Florida to pay for all those lawyers, but without Plant
2 Hatch as the basis for our power, your electric bills would
3 have spiked 10 times during the last week. It's awfully
4 hard to run the economy of an area when you're costs are
5 spiking like this. The beauty of Plant Hatch and Plant
6 Vogtle -- our nuclear fleet -- is their reliable baseline
7 that gives us the power we need and keeps our costs way
8 down.

9 Hatch has been a leader in industrial safety. It
10 also stands high in the performance indicators, both for the
11 NRC and for the IMPO. We are proud and pleased with our
12 investment and we strongly support renewed operation.

13 MR. CAMERON: Thank you, Mr. Lindell. Do we have
14 anybody else that wants to say anything at this point?
15 Janisse, you have one final comment for us?

16 MS. RAY: I do. I wasn't going to speak and I
17 just decided that I have to go on record. I'm going to send
18 in written comments, but I have to go on record as saying
19 that I am absolutely, completely, vehemently opposed to the
20 re-licensing of the plant, only because I am so concerned
21 about the health effects on the people living around it.

22 I know you don't have to look at that stuff. I
23 realize too, that I am probably the only person in this room
24 with no economic ties to Plant Hatch at all except that I
25 use the electricity. I think I do -- part of it -- from

1 there. I have no other ties. I have no business. I do
2 have a child and there are children that I love who live
3 here.

4 That's all I want to say is that I have nothing to
5 gain from Plant Hatch closing or staying open. I can do
6 without the electricity and I am absolutely opposed to the
7 re-licensing. Sorry.

8 MR. CAMERON: Okay. Thank you, Janisse. Anybody
9 else? All right.

10 Thank all of you for your attention and for your
11 comments tonight. I think we stand adjourned. The NRC
12 staff will be here if you need to talk to them.

13 (Whereupon, at 9:15 p.m., the meeting was
14 concluded.)

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