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

1:30 p.m.

BEFORE:

CHIP CAMERON, Special Agent

P R O C E E D I N G S

(1:30 p.m.)

MR. CAMERON: We are going to get started now.

Thank you all for being here with us today. I'd like to welcome you to the NRC's Public Meeting on the Draft Supplemental Environmental Impact Statement that has been prepared on the application to renew the licenses at the Hatch Plant, Units 1 and 2.

My name is Chip Cameron. I am the Special Counsel for Public Liaison in the Office of General Counsel at the Nuclear Regulatory Commission, and I am pleased to serve as your facilitator and moderator tonight.

I just wanted to cover three issues with you briefly before we get into the substance of the discussion today. One, I'd like to talk about what the objectives are for today's meeting. Secondly, I'd like to talk a little bit about format and ground rules. Third, I'd like to just go over the agenda briefly with you so you know what to expect today.

In terms of objectives for today's meeting, the NRC wants to provide you with information on the contents of the Draft Environmental Impact Statement and on the status of the license renewal application for Hatch, Units 1 and 2. Secondly, the NRC wants to hear from you in terms of any comments that you might have on the Draft Environmental

Impact Statement -- any concerns that you might have. Did we look at the right information in preparing the Draft Environmental Impact Statement? Are there other alternatives or impacts that the NRC should be looking at? The ultimate objective is to use the information that you provide us with today, in preparing the Final Environmental Impact Statement. You will hear from the NRC staff on how the Environmental Impact Statement -- what part it plays in making decisions on the license renewal application.

The NRC is taking written comments on the Draft Environmental Impact Statement, but we wanted to be with you today in person to talk about it. Information you hear today may help you to prepare written comments if you want to do that. You will also be able to see what others in the community feel about the information in the Draft Environmental Impact Statement.

I would emphasize though, even though you can file written comments and we hope that you do, any comments that you make today will carry the same weight as any of the comments that are submitted to us in writing.

In terms of format we'd like to, if we can, have as much discussion and interaction with you today as possible. You'll see from looking at the agenda that it is divided into a number of topics and those topics are started by an NRC presentation to give you some background on that

topic. We will then go out to you for questions and comments on that particular topic and I hope that this is a good format for you in terms of interaction.

There are several people who want to make a more formal statement on these issues, and we're going to do that at the end of the meeting. There is no time limit, but I would suggest that we hold those formal comments down to 10 minutes. I would just urge all of you to try to be as concise as possible in your questions and comments today because we just want to make sure that everybody gets a chance to speak, and if you will try to be to the point, that will make sure that we have that opportunity.

If you did want to talk, if you want to ask a question, or make a comment, just signal me and I will bring you this talking stick, or you can use these microphones that are out here in the aisles. For the more formal statements please feel free to come up to the podium and make those statements. Just state your name and affiliation if appropriate.

We are taking a transcript and our stenographer is right here. The transcript of today's meeting will be available relatively soon after the meeting for people to look at. It will be available on the NRC web site, which we've written down here, and that also may help you if you're planning on submitting written comments.

One final point is that we realize that there may be a lot of issues; broader issues than just the Environmental Impact Statement on Units 1 and 2 at Hatch Plant, issues about nuclear power in general, or other plant issues. We're always glad to listen to people -- listen to what they have to say on these issues of concern to them, but our primary focus tonight is to discuss the Draft Environmental Impact Statement. So we want to keep on that topic, but to the extent that we have time, we will try to address or listen to other comments.

Now what I'd like to do is introduce the speakers and use the agenda to do that. After I'm done, and that will be very shortly, we're going to turn to Cynthia Carpenter, to give you a brief welcome and discussion on the meeting overview and purpose. Cindy is the Branch Chief of the Generic Issues, Environmental, Financial, and Rulemaking Branch within the Office of Nuclear Reactor Regulation at the NRC.

Cindy's staff is responsible for preparing and overseeing the preparation of the Environmental Impact Statements for all plants, including Hatch, that are undergoing license renewal. She will be giving you a welcome in just a minute.

After Cynthia, we're going to go to William "Butch" Burton. This is Butch right here. Butch is the

Senior Project Manager on what we call the safety side of license renewal. He's in the License Renewal and Standardization Branch that is also within the Office of Nuclear Reactor Regulation. That branch takes the Environmental Impact Statement information from Cindy's branch, they integrate that with their evaluation of the safety issues in regard to license renewal. Butch will be telling you about those safety issues.

They also integrate inspection findings from the NRC inspectors looking at the plant, and that forms the basis for making a decision on the license renewal application. We will give you a chance to ask questions and talk about that safety side after Butch is done with his presentation.

We're then going to focus in on the NEPA process -- the National Environmental Policy Act process, which involves the preparation of the Environmental Impact Statement. To lead that discussion, we're going to go to Andy Kugler, right here.

Andy is the Senior Project Manager on the environmental side for Hatch. He is in Cindy's branch. Butch is the Safety Project Manager on the Hatch license renewal. Andy is going to tell you about the Environmental Impact Statement process.

Next we're going to go to the heart of the

discussion which is, what are some of the findings in the Environmental Impact Statement with regard to the license renewal at the Hatch Plant. We're going to ask Mary Ann Parkhurst, who is right here. Mary Ann is a Staff Scientist at Pacific Northwest National Lab, who along with her team, has helped the NRC prepare this Draft Environmental Impact Statement. She will be talking about specifics. We will take a break during her presentation to go out and ask you for questions and comments. Then we will also do that at the end of her presentation.

Our final presenter is Mike Snodderly, who is a Reactor Engineer at the NRC. Mike is in something called the Probabilistic Safety Assessment Branch, which is within the Office of Nuclear Reactor Regulation. He is going to talk about one specific part of the Environmental Impact Statement process. This is what are called SAMAs, which are Severe Accident Mitigation Alternatives. Mike is going to talk about that, and we will go to you for questions after that.

Andy is going to come back and talk about what the preliminary conclusions are in the Draft Environmental Impact Statement, and then we'll go to the people who want to make some formal statement.

With that, I would just turn it over to Cindy.

MS. CARPENTER: Good afternoon, and thank you very

much for coming this afternoon.

As Chip said, my name is Cindy Carpenter. I am the Branch Chief of the Generic Issues, Environmental, Financial, and Rulemaking Branch, and we do have ultimate responsibility for the Environmental Impact Statement for this Federal action. Slide 2, please.

We're here today to talk about the preliminary results of the environmental review that the NRC has undertaken as a result of the Southern Nuclear Operating Company's application to renew its operating licenses for the Hatch Nuclear Plant, Units 1 and 2.

We'll talk a little bit about the statutory requirements for this action, the purpose of the review, the processes that we go through, the preliminary results, and then also the schedule the staff is working toward. More importantly, we'll provide you with an opportunity to give us any input on the preliminary results on anything that you hear today, or to ask any questions on anything that you've heard today. Slide 3, please.

To provide you with some background, the operating licenses for Hatch, Units 1 and 2, will currently expire in 2014 for Unit 1, and 2018 for Unit 2. As we will discuss a little bit later on, the Atomic Energy Act allows that a licensee, such as Southern Nuclear, can renew a license for up to 20 years.

Part of the license renewal process requires the Nuclear Regulatory Commission to systematically consider the environmental impacts during its decision-making process on this matter. Slide 4, please.

Southern Nuclear submitted its license renewal application for Hatch, Units 1 and 2, in February of 2000. We visited the site and held a Public Scoping Meeting here in May to identify any issues that may need to be addressed during our review. On November 3, 2000, the NRC issued a Draft Supplemental Environmental Impact Statement that describes the results of our review.

We are currently in the middle of the comment period for this document, during which time we are asking for comments from members of the public on anything that is in the document. These comments may help the staff evaluate the acceptability of the environmental aspects of the Hatch license renewal. That brings us to why we are here today. Slide 5.

The purpose of today's meeting is to describe the environmental review process to you, to discuss the results of our review, we'll provide you with our review schedule, and we'll accept any comments that you may have today and also explain to you how you can submit comments in writing to us until the end of the comment period. Slide 6, please.

Before we begin to explain the license renewal

process, I'm going to lay a little bit of a foundation for you in general terms of what the Nuclear Regulatory Commission does.

The Nuclear Regulatory Commission's authority is derived from the Atomic Energy Act of 1954, also the Energy Reorganization Act of 1974, as well as amendments to those acts, and other legislation that involves security and waste and energy policies. The NRC's regulations are issued under Title 10 of the United States Code of Federal Regulations. We typically refer to that as 10 CFR. Slide 7, please.

Based on this legislation, the Nuclear Regulatory Commission's mission is to regulate the nation's civilian use of nuclear materials to ensure the adequate protection of the public health and safety, to promote the common defense and security, and to protect the environment.

Additional requirements for the evaluation of environmental impacts are provided in the National Environmental Policy Act, which is many times referred to as NEPA.

For commercial nuclear power reactors, the NRC's regulatory functions include licensing. A nuclear power plant license is based upon a set of established regulatory requirements to ensure that the design and the proposed operation are safe based upon radiological safety standards. The NRC conducts routine

inspections to ensure that the plant design and operation conform to these license requirements. Enforcement actions are taken in the event that license conditions are not met.

That is a background, and as Chip said, Butch Burton, the NRC's License Renewal Senior Safety Project Manager for the Hatch Plant, will describe the license renewal process for you. Butch --

MR. BURTON: Thank you, Cindy. As Chip and Cindy mentioned, my name is Butch Burton, and I serve as the Project Manager for the safety review for the Hatch license renewal application. May I have Slide 9, please?

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

The safety requirements for the initial 40-year license are contained in 10 CFR Part 50. When the first reactors were constructed, major components were expected to last at least 40 years. Operating experience has demonstrated that this expectation was unrealistic for some

major plant components, such as steam generators in a pressurized water reactor.

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

As a result, the NRC established regulatory requirements in 10 CFR Part 54, to provide for license renewal. The rule, which was initially issued in 1991, and amended in 1995, provides that the basis on which a plant was originally licensed remains valid after 40 years and can be carried over into a 20-year period of extended operation. The rule requires that an applicant demonstrate that applicable aging effects will be adequately managed for a defined scope of passive, long-lived systems, structures, and components. The Commission determined that aging for active components is adequately managed by existing maintenance and surveillance programs, and other aspects of the existing license requirements can continue through the license-extension period. The rule also requires that certain time-dependent design analyses be identified and evaluated.

A new license can be granted upon a finding by the

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

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

Deregulation and competition have raised the interest in license renewal to strategic importance, because large generating plants become vital economic assets to the plant owners. Operating nuclear plants are expected to remain competitive after retail electricity restructuring provided that the cost associated with operating the plant safely in the future can be reasonably projected.

Some currently operating U.S. plants will not apply for license renewal for economic reasons. The NRC established the license renewal requirements so that any

plant that is financially and materially capable of operating safely beyond the current term of the license, should have that opportunity and should clearly understand the requirements for such extended operation.

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

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

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

The renewal application and safety evaluation will also be reviewed by the NRC's Advisory Committee on Reactor Safeguards in accordance with the usual practices for

issuance of a license. The NRC plans to complete a Safety Evaluation Report for the Plant Hatch renewal application, which will address the scope of passive systems, structures and components, the applicable aging effects, and the aging management programs that Southern Nuclear will rely on to ensure that the plant is safely maintained for the period of extended operation. The initial report will identify any open items and confirmatory matters related to the safety review under Part 54 that must be resolved before the Commission can make its decision on a renewed license. That report will be available to the public.

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

Despite the absence of a formal hearing, interested members of the public who are concerned about nuclear safety issues can raise those issues informally during the various public meetings that the NRC will hold with Southern Nuclear to discuss the safety aspects of the proposed extended plant operation. Time is usually provided

at the conclusion of each meeting for public comments and questions.

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

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

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

The Advisory Committee on Reactor Safeguards, otherwise known as the ACRS, performs an independent review of the renewal application and the safety evaluation, and they report their findings and recommendations directly to the Commission. They also hold public meetings which are transcribed. Oral and written statements can be provided

during the ACRS meetings in accordance with the instructions described in the notice of their meetings in the Federal Register.

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

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

If you are interested in learning more about the new inspection and oversight process, there is information available on the NRC's web page and in the brochures outside the meeting room. The normal regulatory process and

amendments to the existing license will continue in parallel with the renewal application, and address matters of interest such as operational events, spent-fuel storage, security, and emergency plans.

This concludes my part of the presentation. I'll turn it back over to Chip.

MR. CAMERON: Okay. Thank you very much, Butch. Are there questions that anybody might have about the overall process that Butch described, particularly the safety evaluation that the NRC staff is doing on license renewal? Yes.

SARAH BARCZAK: Sarah Barczak. This is somewhat related to what you are talking about, but after this 20-year license renewal extension is granted, is that the last chance to renew it, or will they be able to reapply? I was just curious.

MR. BURTON: I don't know whether the Atomic Energy Act allows for additional extensions. I don't know if anyone else here can answer that.

MS. CARPENTER: I was looking at Butch, because I honestly don't know either. I'm not sure if there's an exact length of time that they say, you know, right now it's 20 years they can extend the license, but I'm not sure that there's a limit to that, to be honest with you. I'd have to look it up and we'll have to get back with you on that, but

I'm not sure that they give an actual limit.

MR. CAMERON: Is the question can there be a third, in other words, another renewal of the license application? Barry, do you have some information on this for Sarah?

MR. ZALCMAN: Sure. My name is Barry Zalcman, also with the Nuclear Regulatory Commission. It's my understanding that the renewed license becomes the new operating license for the facility, and that new license would have an expiration date, and that license could as well, be renewed at some point in the future subject to the same stringent standards recognized in the additional period of operation. So the safety reviews, the same environmental reviews, the same level of inspections would also be conducted at that time.

MR. BURTON: All right. Yes, I did want to say, because as I mentioned before, the technical aspects of operating the plant is really not the limiting factor; it's really the economic. So should there be allowances to extend beyond that as Barry mentioned, we would look again at the technical aspects and see if the applicant is able to continue to operate the plant and meet its current licensing basis into an extended period. We would look at that just as we're looking at it now.

MS. CARPENTER: And the exact same would go for

environmental, if that would occur. We'd have to look at the environmental aspects again for an additional period.

MR. CAMERON: Okay. Yes.

MS. GRES: My name is Dusty Gres. My question to you is, what are the major differences between the safety inspection that you do for the license renewal, as opposed to the regular safety inspections you do for continued operation?

MR. BURTON: Good question. The review that we are performing for license renewal, as I mentioned before, there have been -- the original license renewal rule was promulgated in 1991, and it was amended in 1995. Part of that amendment was somewhat of a narrowing of the focus of the license renewal review. What we do for license renewal, is we really focus on what we call "passive, long-lived structures, systems, and components."

What we have found is that active systems, such as valves and pumps and things like that, should they experience some sort of degradation, the fact that they are active, it is relatively easy to recognize and address that. In fact, much of the work that we do, and much of the procedures and processes we have set up lend themselves to recognizing those things.

As part of the development of Part 54, we recognized that there are some structures and components

that are not active and that are long-lived, and whose age-related degradation can actually occur and it's not easily recognized. So what we try to do in the staff review, is to look at the application and see how the applicant has identified that universe of structures and components, and identify what aging effects those structures, systems, and components are likely to experience, and that they have programs in place to manage that aging.

So to answer your question, the difference between what we're looking at in license renewal versus what we look at more regularly at the operating plant is a really, much more focused review on those things that are long-lived and passive. I hope that answers your question.

MR. CAMERON: Good. Any other questions on the safety issues? Yes, Sarah.

MS. BARCZAK: Is there any time frame or an estimate on when the ACRS reviews are likely to happen?

MR. BURTON: I can certainly give you the dates we currently have. By the way, the review schedule is on the NRC web site. So you can find this information if you go there, but right now for the Safety Evaluation Report our milestone is to have that out February 8. Following the issuance of the SER, there will be a couple of ACRS meetings. There will be an ACRS Subcommittee Meeting

currently scheduled for March 22. That may vary, depending on the ACRS's schedule, but right now it's scheduled for March 22. Then the ACRS Full Committee Meeting is scheduled for April 5. Does that answer your question?

MR. CAMERON: Will the Safety Evaluation Report and the ACRS Report be placed on the web, and/or in the local library for people to look at?

MR. BURTON: Yes. Both will.

MR. CAMERON: In terms of those dates for the ACRS meetings, they will also be on the web site and not only in the Federal Register. Is that correct?

MR. BURTON: That's correct. In fact, it is important that you watch the web site because sometimes the ACRS dates change depending on what their schedule is, and what they have to address. It has already changed once, so I really would suggest that you watch the web site. Does that answer your question? Okay.

MR. CAMERON: Okay, good. Thank you, Butch.

MR. BURTON: Sure.

MR. CAMERON: We're going to go to the environmental side now and listen to Andy Kugler talk about the National Environmental Policy Act process. Andy --

MR. KUGLER: Thank you, Chip. My name is Andy Kugler, and I'm the Environmental Project Manager for the Hatch license renewal. I work for Cindy Carpenter.

I intend to spend the next 20 minutes or so, talking about how the process as required by the National Environmental Policy Act, or what we call NEPA -- how it operates and how we have incorporated it into our regulations. Then more specifically I'll talk about how we are implementing that process in our review of the Hatch license renewal application.

NEPA was enacted in 1969, and it requires Federal agencies to use a systematic approach to consider the environmental aspects of major Federal actions. It is a disclosure tool that involves the public. It involves a process whereby information is gathered concerning the environmental impacts of a proposed action, and then as part of that process, we document our findings and invite public participation to review the findings.

The NEPA process results in a number of different types of documents. The most significant among these are the Environmental Impact Statements, or EIS, which describe the results of a rigorous and detailed review of the environmental impacts of a proposed action that may significantly affect the quality of the human environment. The NRC has already determined that license renewal is a major Federal action. Therefore, we are now going through the NEPA process for the Hatch license renewal application, and we have prepared the Draft Environmental Impact

Statement that describes the results of our review for the operation for an additional 20 years. Slide 15, please.

This slide describes the objective for our environmental review. Simply put, we are trying to determine whether the environmental impacts are such that the license renewal for Hatch is acceptable -- whether or not there are environmental impacts that would impede that.

Whether the plants actually operate for the additional 20 years for which they will be licensed will be determined by others -- by Southern Nuclear, by the local regulatory agencies in the State, but not really by the NRC. We are just giving them -- if we grant this, we will be granting them an extension of the license. Slide 16, please.

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

This regulation outlines the contents of Environmental Impact Statements and the process that the NRC uses to implement NEPA. License renewal is just one action that is covered under 10 CFR Part 51.

As the NRC began establishing the license renewal

process, we realized that the Environmental Impact Statements that had been prepared when the plants were originally licensed some 20 years ago, would have to be revisited for the license renewal period. So the NRC undertook a rulemaking to modify Part 51 to specifically address the license renewal process.

As part of the rulemaking effort for Part 51, the staff developed a Generic Environmental Impact Statement. You'll frequently hear this referred to as the GEIS, or as NUREG-1437. NUREG-1437 took a systematic look at the thousands of hours of operating experience for nuclear power plants to help us to identify potential environmental impacts.

In addition, the staff developed an Environmental Standard Review Plan which we use as guidance to perform our environmental reviews. There are copies of 10 CFR Part 51, of the GEIS, and of the Environmental Standard Review Plan in the back in the lobby if you wish to look at them. These documents are also available on our web site and through the Government Printing Office. Slide 17, please.

This slide shows a little bit more detail of the environmental review process that Butch mentioned earlier. In graphically shows the process that I'm going to be discussing over the next few minutes, so you may want to refer back to it. In fact, what we're going to do -- Cindy

if you could go ahead -- we'll also have it up on the side wall here so that you can look at that as I'm speaking about the different parts of the process. Slide 18, please.

As far as the NEPA process is concerned, there are certain steps that every Federal agency must go through when they are preparing an Environmental Impact Statement for a major Federal action.

The first step is the Notice of Intent. This lets the public know that we are planning to develop an Environmental Impact Statement, and it also invites comments from the public on the scope of the review. For Hatch, the Notice of Intent was published in the Federal Register in April.

To prepare for the review, we assembled a team of NRC engineers and scientists in the specific technical and scientific specialties that we needed for this environmental review. In addition, to supplement our expertise, we engaged the services of the Pacific Northwest National Laboratory to ensure that we had a well-rounded knowledge base for the review. We put together a team of some 20 people for the review and some of those people are here this afternoon to hear your comments and to answer questions.

The next step is the scoping process during which we identify issues that we need to address in the Environmental Impact Statement. As I mentioned, the request

for public comments on the scope of the review was published in the Federal Register in April. In May, during that comment period, we held two public meetings here to allow the public to provide us with comments on the scope. We also went to the Hatch site as a team to acquaint ourselves with the area and to ask any questions of the licensee concerning their application. Slide 19, please.

As the review progressed, the staff contacted Federal, State, and local agencies to gather additional information. We looked a number of issues including the environmental impacts of the proposed action -- of license renewal, alternatives to the proposed action and the environmental impacts of those alternatives, and also possible mitigation measures -- things that could be done to reduce the environmental impacts of license renewal.

On November 3rd of this year, we issued the Draft Environmental Impact Statement for public comment. This document is Supplement 4 to the GEIS because we rely on some of the findings in the GEIS to support some of the conclusions in our Environmental Impact Statement. Now this report is draft, not because it is incomplete, but because we are at an intermediate stage in the review process. We are now in the midst of the second comment period to allow you and other members of the public to provide comments that you may have on the report.

After we gather these comments and evaluate them, we may decide to change portions of the EIS based on the comments. At that point, the NRC will then issue the Final Environmental Impact Statement. Slide 20, please.

Now that I've given you a general idea of the overall process, I'd like to talk about what we did as part of our review. The environmental review team looked at Southern Nuclear's Environmental Report. We visited the site and reviewed Southern Nuclear's evaluation process, and we reviewed comments that we received during the scoping process. All of the comments that we received during the scoping period were considered.

For example, comments related to issues such as alternatives and postulated accidents were reviewed as part of our normal process. Other comments, like questions related to off-site radiological monitoring led us to locate and review information from other sources, in that particular case the Georgia Department of Natural Resources, and to include the results in our Draft Environmental Impact Statement. Slide 21, please.

In addition, we contacted Federal, State, and local officials, as well as local service agencies to gather information on this area and on the plants. Slide 22, please.

These next two slides give you an idea of the

types of things that we looked at during our review. There were ecological issues, health issues -- Slide 23, please.

-- Socioeconomic issues, and alternatives among others. Slide 24, please.

Finally, the regulations identify some issues that the staff does not look at during its environmental review, including the need for power, the cost of power, and spent-fuel disposal. In addition, my environmental review team does not review safety issues during its review of environmental impacts. Those issues are addressed by Mr. Burton's reviewers.

Mary Ann Parkhurst, the Task Leader for the Pacific Northwest National Laboratory, will speak soon about the results of their review covering most of the areas in our Environmental Impact Statement. After her, Mike Snodderly will talk about the results of our review, specifically addressing postulated accidents.

Now I'd like to turn it back over to Chip.

MR. CAMERON: Thank you, Andy. As Andy mentioned, we are going to hear about the specifics of the environmental review from Mary Ann in a few minutes, but are there questions that any of you have about the overall Environmental Impact Statement process that Andy was talking about? All right. Yes, Sarah?

MS. BARCZAK: During the process I was just

wondering would the Draft EIS that we all have to read through -- why weren't the comments that were received from everyone -- the correspondence included in those?

MR. KUGLER: They were reviewed and considered in our development of the draft. We do not -- you mean, specifically included in an appendix or somewhere?

MS. BARCZAK: Correct. There's an appendix that, you know, shows something and et cetera, et cetera, but following what their concerns were, is hard to do when you're just looking at, you know, a letter that was received from Georgians for Clean Energy.

MR. KUGLER: I understand what you're saying. The way we have normally addressed this is we issue a summary of the scoping process, and for Hatch this was issued on August 23rd of this year, which discusses the scoping process, where the comments came in from, and then it lists the comments and the resolution for those comments. We have not, at least up until this point, included them in the EIS itself. We do include the comments that come out of this part of the process in an appendix to the EIS.

MS. BARCZAK: Is the August 23rd comment summary available anywhere on the website? Well, you said that they were pulled together and looked at?

MR. KUGLER: Right. We haven't put the Scoping Summary on the web site. There is probably no reason we

couldn't do that. I understand what you're saying. In other words, that's a piece of the process that would be convenient to have in a handy location. We could certainly consider --

MR. CAMERON: Can we put the Scoping Report on the web site?

MR. KUGLER: I don't see any reason we couldn't. I think the only concern we might get into would be, you know, we don't want it to get cluttered to where it gets hard to find things, but I don't see that as a particular problem in this case, so we can certainly consider doing that.

MR. CAMERON: Okay. The transcript from the meetings is on the web site?

MR. KUGLER: The transcript from the meeting is there. That would only have comments that occurred during the meeting. It wouldn't have the written comments that came separately, so to get the whole picture --

MR. CAMERON: I guess her only concern is the written comments that were submitted?

MS. BARCZAK: Yes. Well, I actually didn't know about any of the comments being available, but -- I'm sorry. I wasn't aware of any of the comments being available, whether they were orally presented during the meetings, or written comments that were sent in. I would address both.

MR. KUGLER: Okay. I understand. Well, the Scoping Summary does address both. So if it was available, what it would do is, for the written comments it would refer you to -- it would give you the date that the letter came in and who it came from. So it would be possible through our Public Document Room, if you wanted to look at the specific document itself, you would be able to get to it from there.

MR. CAMERON: So there's three aspects of this. One is the Scoping Report itself. Secondly, any written comments that were submitted on scoping, and hopefully, it should be fairly simple for someone to electronically navigate through to look at those specific letters, but that's one thing we should also consider, and as for the transcript for the public meeting, do we put those on the web as a matter of course?

MR. KUGLER: The transcripts we normally have. The transcript from the Scoping Meeting for Hatch is on the web site under the Hatch License Renewal.

MR. CAMERON: So look for those two other --

MR. KUGLER: Well, we'll have to see about the letters. If we start getting into individual submittal letters, that might start to get a little crowded, but what I was speaking to was possibly putting the Scoping Summary, which would provide you with the reference to individual letters that had come in. Then if you wanted to look at the

individual letter you could go to the Public Document Room to obtain those. It would give you enough information to be able to get them.

MR. CAMERON: If we have some suggestion that we can either off-line talk or on-line tell people how they get into the Public Document Room to look for those letters, I think that would also be helpful.

MR. KUGLER: We do have information in the back on how to access the Public Document Room and Adams. There are information sheets in the back.

MR. CAMERON: All right. One more question up here. Deborah --

MS. SHEPPARD: Thank you. My name is Deborah Sheppard, and this is a follow-up question to the one that was just asked.

You said earlier that you took into consideration the comments that were made publicly and in writing, and you followed those up with additional research. Is there a location where you can link the question and the concerns with exactly what information you sought and what the conclusion was?

MR. KUGLER: I don't believe we have anything that provides that sort of a direct link between the two. In some cases it might be fairly obvious. For instance, for the radiological off-site monitoring question there is a

specific location where we discuss the report from the Georgia Department of Natural Resources, and we talk about radiological impacts, but other comments, it might not be clear where in the report that any changes we made, or anything we included show up in response to those comments, other than the general section.

For instance, if a comment was on alternatives, it would certainly be Chapter 8, but there's nothing that would tell you specifically, you know, this piece in Section 8 is where that comment was addressed.

MS. SHEPPARD: I guess, just as a point of public information, I believe those of us who are attempting to follow this process are in a very difficult situation to be able to follow your thinking as you evaluate this. I would like to suggest that when people come to a meeting such as this one and make written comments, they are doing about all they can do. We don't have huge staffs to follow this and it makes it extremely difficult for us to really understand whether you've addressed the comment and what your thinking is. So if there's a way to -- I will just issue that as a criticism of the process. Thank you.

MR. KUGLER: Okay. I understand what you're saying. I guess, what I would say in terms of the way the process moves forward, the draft is not completely written at the time that we work through the comments. They do kind

of run in parallel, but we would probably have to go back after the draft was completed if we were going to really show a direct -- here's where the comment was made and here's where it appeared. I'm not sure whether we can do that readily, but I understand your concern.

MR. CAMERON: A few additional points that may help on this, Andy. As I understand it, if someone wanted to repeat a concern that they had at the time of the scoping -- if they wanted to repeat that concern as a comment on the Draft Environmental Impact Statement, then we would look at that comment again.

MR. KUGLER: Certainly.

MR. CAMERON: In the Final Environmental Impact Statement, in your response to Sarah, you said that there is an appendix of the comments. Is there a link? Can people see a link between those comment letters on the Draft Environmental Impact Statement and changes that were made in the Environmental Impact Statement? I'm just wondering if there is a way to sort of correct this.

MR. KUGLER: I understand what you're saying. I haven't written the appendix yet, so I'm not, you know, that's a little hard to answer, but I think it would be my goal to make it clear where we have made changes to the EIS. I would like to make it clear where those changes occurred in relation to the comments. That would be my goal.

MR. ZALCMAN: Let me offer this. This is Barry Zalcman again from the staff. We have examples of a number of these earlier Supplemental Environmental Impact Statements in the back of the room. The important thing is when we go from the draft to the final stage, we de-aggregate all the comments and enumerate them by category, and give you a direct map so you can see the section of the report that is actually addressing a change from the draft to the final. The question I think that you're raising, deals with the scoping process. When we went to the Scoping Summary Report is there a mechanism that connects that report to the draft EIS? Is that the specific question?

MS. SHEPPARD: That a regular person could access in a reasonable amount of time.

MR. ZALCMAN: Let me just talk a moment about the Scoping Summary Report that is available in the Public Document Room -- the Electronic Public Document Room, as well as the room that is accessible in Rockville, Maryland.

We also made a point of making sure that the public also had it available at the Appling Public Library, to make sure that locals had insight, so those that had a desire to actively participate in the process could actually see that.

The question of how do we build a bridge between

the scoping activities and the Environmental Impact Statement is always a challenge for any of the Federal agencies.

What we tried to do with the Scoping Summary Report, recognizing that this is a unique process that is different than if we were to license a nuclear power plant from the start. From the start, everything is open for a nuclear power plant license; everything is subject to a normal review.

For license renewal, we have a Generic Environmental Impact Statement that already addresses about a hundred issues that we already believe to be within the scope of license renewal. We have to deal with those along the way. The issues that we're seeking public engagement on during the scoping is, is there something beyond those hundred, that you being proximate to the site, may be aware of to help inform the Agency as we begin on these?

So, as Andy mentioned, there are number of issues where the Agency was already going to look at that issue in detail. So when you brought that issue to us, it was already within the scope of the environmental review.

What we're trying to do is isolate those that are unique -- that we have not looked at -- unique to the area that we were not familiar with, to inform the Agency so we can do a more detailed review.

We did have a number of issues that were of interest to members of the public that we attempted to bridge within at least the Table of Contents on the draft. You have good organization on where these issues can be found. That is our attempt at trying to deal with the public engagement issue.

If you have a specific interest in a specific issue area, at least the Table of Contents will isolate it for you, to help you look narrowly to see the discussion that we provided and the rest of the issues that were raised under the scoping, but I will say that we will take the comment that was raised, "Is there a better way to bridge it?" -- We will consider whether or not we can do a better job with that.

MR. CAMERON: Okay. Thanks, Barry. Deborah --

MS. SHEPPARD: I'd just like to say with all due respect, to everybody within the NRC, whether you evaluate the generic issues and the way all of those things are handled, to a layperson, many of the unique biological and overall environmental considerations to this particular river system are not generic issues.

So, you know, I hear what you're saying about reviewing the Table of Contents, but it is still extremely difficult to see how specific work was done in this area to address specific concerns to us. Thank you.

MR. CAMERON: Thank you, Deborah. I think Mary Ann's presentation may be instructive on some of the specifics on this.

Anybody else on the overall process, before we move on? The NEPA process? Okay. Thanks, Andy.

Next we're going to go to Mary Ann Parkhurst, with the Pacific Northwest National Lab, who led the Environmental Review Team to assist the NRC in evaluating the impacts. I'm just going to turn it over to Mary Ann.

Mary Ann, whenever you think it's appropriate to take a break for questions during your presentation, we'll do that, and then we'll do it at the end too. All right.

MS. PARKHURST: I'll have to remember what my slides look like because I can't see behind me very easily.

As you know, my name is Mary Ann Parkhurst. I work for Pacific Northwest National Laboratory, which is operated by Battelle Memorial Institute, a nonprofit organization.

I'd like to talk about the process we used for evaluating the environmental issues and a little bit about the specifics of what we came up with in our Draft EIS.

You know that we used the Generic Environmental Impact Statement, what we call the GEIS, as the basis for much of the work that was done here. The NRC worked with the States, with the Council on Environmental Quality, with

the Environmental Protection Agency, and a number of other groups to come up with this document, to develop it. They held a series of public workshops to finalize the GEIS.

During that time, the NRC did its best to identify the appropriate categories of environmental issues that needed to be looked at in license renewal and came up with 92 separate issues. Now these issues are categorized into two different levels. One is a Category 1 and one is a Category 2. Let's go to the next slide here -- Slide 26, please, and talk about the Category 1 issues.

The NRC wanted to distinguish between the those issues that are specific to any particular plant, versus the generic issues that are held in common by 103 or so, operating nuclear plants in the country. Let's go to the next slide, please.

As an example of a Category 1 issue, we're looking at things like maybe off-site radiological consequences. When developing the GEIS the staff looked to see if off-site doses during the renewal period were likely to exceed current levels associated with the normal operation of plants today.

The historical records of doses to the public are maintained by each plant. We reviewed these numbers and concluded that doses to the public from the individual plants are consistently below those allowed by regulations

and in fact, they are very well below those regulatory constraints.

Therefore, the staff could see no reason for those doses to increase during the proposed license renewal period, provided that the plants continue to monitor their facilities and that there were no reasons for any additional doses that would put them out of compliance with their own programs.

Because expected radiological impacts apply to all plants then, this became a Category 1 issue, something that we only -- we don't ignore this at any new plant -- we only review it in terms of what's new and significant that would make us want to change our conclusion from the issue that we looked at four years ago when we wrote the GEIS. Let's go back to the previous slide. Can we go backward one? I guess not. Thank you. Okay.

Of the 92 issues that we looked at, 69 were considered Category 1s. That's what we are showing there. We have 23 issues that remained after pulling out the 69 Category 1s. So we've got 23 issues that are considered Category 2 issues, or something we call non-categorized issues; we have two issues there. We looked at each of these in detail depending on what category it fell into. Now let's go ahead to Slide 27.

With regard to Category 1 issues, the Evaluation

Team reviewed the Hatch Environmental Report and discussed the information that SNC had presented in that application. We sought your comments during the Public Scoping Meeting and during the scoping period that followed it, and we reviewed the environmental standards and regulations.

Now each Category 1 issue was evaluated to determine whether or not there was any pertinent new and significant information relative to that issue. If we identified anything new and significant, we would have performed further evaluation.

However, we did not identify any new and significant information and, therefore, the staff relies on the conclusions of the GEIS as supported by plant-specific information. Let's go to the next slide, please -- 28.

There are 21 Category 2 issues. These are the ones we put the main emphasis on in our evaluation. Of these 21 issues, five of them are not applicable to the Hatch Plant because they are related to plant design issues that are not specific to Hatch. For example, several of them relate to once-through cooling, whereas, Hatch uses cooling towers in their closed-cycle cooling process.

There are four issues of that 21, that are related to refurbishment. Refurbishment, when there is a major effort to change out some, perhaps the steam generators when we're talking about a PWR -- a pressurized water reactor --

maybe the recirculating pipes in a BWR, which this is. Because Southern Nuclear has no plans for any major refurbishment activities, these issues then are not relevant to this analysis.

That leaves 12 issues that we looked at specifically in the EIS in detail. Those are the ones that again, we concentrated our effort on because we thought they had the most opportunity for finding something new and significant here.

There are two additional issues that were not categorized by the GEIS, and these are environmental justice and chronic exposure to electromagnetic fields.

Now environmental justice -- just what is it? It refers to action that results in a disproportionately high and adverse impact on low-income or minority populations. This concept came about from concerns that certain unpopular actions, perhaps like locating a waste dump, were being diverted to areas with low-income or minority populations. NRC voluntarily includes an evaluation of environmental justice in the license renewal process.

The second issue is chronic exposure to electro-magnetic fields. This comes from questions of whether power transmission lines could have some health implications. The potential for chronic effects is still under investigation. The staff considers this issue non-applicable and continues

to follow the developments as this issue is resolved. Next slide, please.

Now I'd like to go over the format of the document. Many of you have probably already seen it and have a feel for what's in it, but for those of you that haven't, we start out with Chapter 1, which briefly describes the NEPA process as Andy was mentioning here earlier.

Then Chapter 2 describes the Hatch Plant and the environment that surrounds it. These descriptions are divided into various topics you'll see up here, including land use, water use and water quality, air quality, aquatic ecology, terrestrial resources, radiological impacts, socioeconomic impacts -- socioeconomics are those that affect the populations, which we'll talk about in a few minutes -- and historic and archeological issues. Next slide, please.

The environmental impacts of license renewal then are discussed in Chapters 3 through 7. Chapter 3 is designed to address the issues of refurbishment. Since they don't have refurbishment planned for this facility, this chapter then becomes a placeholder. It's a very short chapter. It's the shortest one to read. Our next one is Chapter 4 and that's much lengthier. We're addressing the environmental impacts of operation during the license

renewal term specifically. It addresses both the Category 1 issues that are relevant to the plant, and the Category 2 plant-specific issues.

We looked at the impacts of the cooling system, the impacts of the transmission lines, radiological impacts, socioeconomic impacts, groundwater use and quality, and threatened and endangered species. These were the main areas that the document goes into. Slide 31.

Chapter 5 discusses the postulated plant accidents and it includes a review of the SAMAs mentioned -- the Severe Accident Mitigation Alternatives that Mike will mention here shortly.

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

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

Chapter 8 evaluates the alternatives to license renewal, describing the major methods that could be used to obtain the energy if the Hatch Plant license was not approved -- the renewal was not approved.

Finally, Chapter 9 is a summary of our preliminary conclusions. Chip, maybe this is a good time to stop and ask for questions -- any questions about the document

structure?

MR. CAMERON: Okay. Thanks, Mary Ann. We have the specific environmental impacts to deal with. Before we get into that, are there any questions about the structure of the document or how the NRC proceeded to put the Draft Environmental Impact Statement together? That doesn't mean that you can't come back and ask about that later, but -- Sarah?

MS. BARCZAK: The question that I have is, how far ahead or in the future did the nuclear reactor for the plant project what future refurbishment activities there would be? All the way through 2034 and 2038, or do you know?

MS. PARKHURST: Through the license renewal period they have to, you know, consider what they have to do between now and license time just to keep their plant going, and then there's the question of what additionally has to be done to maintain the plant during that additional period -- the renewal term, and what then is required that would be considered a major refurbishment.

MR. CAMERON: So does that mean that if there were going to be any proposed refurbishment during the? --

MS. PARKHURST: They'd have to indicate it in their application.

MR. CAMERON: They would have to indicate it? Okay.

MS. PARKHURST: They have to have the operations necessary to continue into that term. As part of the license renewal term, they have to identify it now.

MR. CAMERON: Does that answer your question?

MS. BARCZAK: Yes.

MR. CAMERON: Okay. Deborah --

MS. SHEPPARD: Very simply, could you just refer us to the page numbers for the generic issues?

MS. PARKHURST: The document is developed a little differently than that. They're in there by -- well, okay. You can look at 10 CFR 51, Subpart A, Table B-1. That will give you the list of the 92 issues. It will identify which are Category 1, which are Category 2. It identifies which are applicable to all plants, which are specific to those, like I said, with cooling towers versus those that are required for once-through cooling, those that have cooling ponds. So that's the best place to get that information.

In the document itself, especially in Chapter 3 which is on the refurbishment, and Chapter 4, and then 5, 6 and 7, there is a section in each part of it that talks about which issues are Category 1 issues, and then there's a separate table of which issues are Category 2 issues. So they are spread out primarily in Chapter 4, also again the SAMAs are in Chapter 5, the fuel cycle in 6, the decommissioning in Chapter 7.

MS. SHEPPARD: Thank you. I was afraid I had missed something when I was reviewing the report because I was trying desperately to find some easy reference and I did see the locations scattered throughout, but just as another observation, if you are actually asking members of the general public to review a document like this, if I can't find it, you know, you're acting on maybe a very unrealistic assumption of what people are capable of doing in reviewing your work.

MS. PARKHURST: That's a good comment, thank you. I think that we will make sure that we have that referenced. Andy --

MR. KUGLER: I think I'd just like to say in reference to this that there are probably different ways we could structure it, and different people would like different approaches. I think our reasoning was that most people have certain issues they are concerned with and so as you go into the Table of Contents, you look for that issue in the Table of Contents. You go to that section and there will be a table at the beginning of the section that lists the Category 1 and 2 issues related to that issue. Then it goes on to discuss them and how they, you know, address them for the specific plant, depending on whether it's Category 1 or 2. So it's one logical way to do it. It could have been done other ways, but we felt that this probably worked the

best. There is one other place that some issues appear and that is in Appendix F. That's for the issues that are not applicable to Hatch. It was the best construction we felt we could come up with for that.

MR. CAMERON: If I understand Deborah's comment, it would be a comment that would be applicable to the organization of the Final Environmental Impact Statement also, so that it would be something for us to consider along with all the other factors that they've mentioned, Andy.

MR. KUGLER: Are you indicating basically that your preference would have been to see it organized in such a way that they were listed in the same way as in Part 51, I'm not entirely clear on what you would have liked to have seen.

MS. SHEPPARD: Perhaps including Part 51 as part of the document with a reference to refer to that would be useful. If you receive the document like this and believe it's a whole and complete representation of the process and you're trying to find lists that are referred to, you can't find them. That's the problem. So maybe merging the two documents would be a solution.

MR. KUGLER: Okay. I understand what you're saying. Thank you.

MR. CAMERON: Thank you, Deborah. Any further? There's a comment or question right here. Yes, sir.

MR. HOLLAND: On Slide 30 you mentioned something about threatened and endangered species. You didn't give any particular categories, so I'd like to talk about two in particular.

The Short-nosed Sturgeon -- was there any possibility that you had a problem there with the Short-nose?

MS. PARKHURST: I've got a discussion coming up on that exact issue.

MR. HOLLAND: You'll have a discussion on that?

MS. PARKHURST: Yes, sir.

MR. HOLLAND: How about -- there's another one that appears to be heading toward the threatened or endangered species list, which is the Robust Redhorse Sucker. Has this particular animal showed up in that area?

MS. PARKHURST: What was that again, please? What was that one?

MR. HOLLAND: It's called the Robust Redhorse Sucker.

MS. PARKHURST: I don't recall that right off. I have an aquatic ecologist who was supposed to be here today who could answer that for you. Unfortunately, he was in Detroit and unable to leave the airport. He's snowbound.

MR. HOLLAND: Well, that's something, you know, I'm not asking you to address that point right this moment,

but at some point that question certainly needs an answer.

MS. PARKHURST: Thank you. We'll make sure that we catch that in the transcript.

MR. CAMERON: Could you just tell us your name for the record, please?

MR. HOLLAND: I'm James Holland, H-o-l-l-a-n-d.

MS. PARKHURST: Thank you very much.

MR. CAMERON: And Mr. Holland, we're going to come back to the specifics on this and if you have further questions or points you can offer them then, but we have heard your two suggestions. Those will be considered as comments also.

Let's go on to the -- let's get into the specifics. That's a good segue. Mary Ann, do you want to continue?

MS. PARKHURST: Okay. Let's go to the next slide, please. We'll look at the highlights of the document. Next slide, please.

The cooling system -- and again, we'll get into the Sturgeon here -- the Hatch Plant uses a closed-loop cooling system to absorb the heat through the reactor condensers. This system has three mechanical draft towers in each of its two units. You've got six cooling towers out there which, to keep the water circulating in there, Hatch withdraws water from the Altamaha River through a single

in-take structure, and returns it downstream through a submerged discharge structure about 1,300 feet down-river from the water in-take. The river itself is about 500 feet wide, with a maximum depth of 30 feet near the plant.

One of the issues that we worry about with the cooling system effects is entrainment and impingement of fish and aquatic organisms on the screens and so on, in the cooling system. This is less of a problem for plants that have cooling towers than it is with those using once-through cooling. So we handle it a little differently; more as a Category 1 issue than a Category 2.

What we know here about the entrainment and impingement at the Hatch facility is there has been quite a study of this impingement. There was a 5-year study in which impingement was extensively studied and the fluctuation between the take -- the amount of fish, or often mostly larvae that's collected on the screens, varies from day to day and from year to year -- what they found is that rates varied from 0.4 fish per day impinged on the screens, and this ranged up to a 1.2 fish per day.

Now the Hogchoker, which is what that is representing there, was the most abundant and the only species collected consistently each year in this study on the screens. Species affected by entrainment and impingement -- the ones that were collected and so on -- are

not considered endangered. The impact to these populations is considered small. I say small, and what I mean by small is that the effects are either not detectable, or they are too small to destabilize or noticeably alter important attributes of the resource. That's the GEIS's definition of small.

In a separate analysis we looked at threatened and endangered species, which is a Category 2 issue. Aquatic and terrestrial species were surveyed in a recent Field Study and had been surveyed over the years, but in the recent survey they not only looked at the Hatch site, but all the transmission line corridors. They included things like the freshwater mussel in this survey. That might be another one that you're keeping an eye on.

As a part of SNC's evaluation of these threatened and endangered species, they consulted with agencies like the Georgia Department of Natural Resources, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service regarding the potential occurrence of threatened and endangered species on the plant site or in that vicinity.

One Federally-listed aquatic species known to be in the area is the Short-nosed Sturgeon. Several terrestrial species are also documented in the area. However, SNC determined that its operation and maintenance

procedures would remain unchanged during the license renewal period and did not threaten the existence of these listed species.

The Georgia Department of Natural Resources and the Fish and Wildlife Service concurred with the no-effect -- in their official determination -- for the mussel species. SNC has requested a no-effect determination from the National Marine Fisheries Service on the Short-nosed Sturgeon, based on a fairly extensive biological assessment.

While we wait on that reply, the NRC staff has evaluated the potential impacts related to entrainment and impingement of the Short-nosed Sturgeon at the Hatch in-take structure and also the thermal effects. These are the two things where you might expect to have some impacts, and it has found no evidence that the Sturgeon would be adversely impacted by the Hatch license renewal. The NRC then provided this information to the National Marine Fisheries Service. Okay, next slide, please.

Heat shock is unlikely to be an issue at Hatch, again, with the cooling towers in place. This is different from the once-through cooling where the heat is much more of a potential issue. So here at Hatch, the impact of heat shock on aquatic systems is small.

The last Category 2 issue related to cooling systems is that of microbial organisms, specifically, the

thermophilic pathogens. These are the ones that love heat. We looked at these to determine if there is an enhanced presence of these organisms that could pose a risk to public health during the renewal term. These pathogens require elevated discharge temperatures for optimal growth and development.

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

Additionally, because wastewater is treated at the plant, anything that the plant is discharging is treated before it is discharged. There is a lack of a pathogen source that you would commonly need in order to have this be a problem. There is no untreated sewage for instance, going into river from the facility as a result of its operations.

The staff therefore concludes that the potential impacts of microbial organisms on human health, resulting from the operation of the plants cooling water discharge to the aquatic environment during the renewal term is small. Slide 35, please.

The transmission system that distributes the electricity generated by the Hatch Plant includes six transmission lines with a total corridor length of 338

miles. The GEIS evaluation of environmental issues relevant to transmission lines regarded issues such as the power line right-of-way management, which consists largely of cutting vegetation and herbicide application, bird collisions with power lines, and electromagnetic fields on flora and fauna. These are Category 1 issues. We found no new and significant information with these transmission line impacts.

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

Newer requirements request that they calculate induced current beneath the lines to a large vehicle shorted to ground, and there is a limit that they have to meet on this. The SNC evaluated this limit and determined that the impact of the electromagnetic field effects as a result of the limit was small. The numbers are well below the constraints that are put on them.

One other issue regarding transmission lines is the chronic effect of extremely low frequency electromagnetic fields. I mentioned that a little bit earlier. This issue is not categorized, and the NRC considers this issue not applicable as there is no final conclusion on it. NRC does continue to follow the scientific developments related to this issue. Slide 36, please.

The evaluation of radiological impacts addresses exposure to the public and to occupational workers. As I mentioned earlier, this is a Category 1 issue and there are no Category 2 radiological issues related to license renewal, nor was any new and significant information identified during the course of this analysis. Because this is an issue of considerable public interest, I want to mention a few items that we did discover as part of our evaluation.

SNC and its predecessor organizations have conducted a Radiological Environmental Monitoring Program around the Hatch Plant site since 1974. The radiological exposures to the public and the environment have been carefully monitored and compared with the appropriate standards. This monitoring program is used to do a number of things. One is to verify that radioactive materials and ambient radiation levels attributable to plant operations

are within NRC Regulatory Limits and EPA Environmental Radiation Standards. Secondly, to detect any measurable buildup of long-lived radionuclides in the environment. Third, to monitor and evaluate ambient radiation levels, and fourth, to determine whether any statistically significant increase occurs in a concentration of radionuclides in important pathways.

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

In addition to SNC's Surveillance Program, the Georgia Department of Natural Resources conducts a survey around the site and to a distance of up to 90 miles, to characterize radiation and radionuclides in air and precipitation -- rainwater, I presume mostly here -- vegetation, soil, groundwater, the Altamaha River, river sediment, and fish. They concluded that the measured concentrations were well below levels of concern, and that there are no measurable impacts on water, fish, or seafood downstream of Plant Hatch. I presume by seafood, they mean mostly shellfish.

The GEIS concluded that radiological impacts of a license renewal are small. No increase is anticipated in either public or occupational radiation dose during the

license renewal term. Slide 37, please.

The next area covered was socioeconomic issues. There are a variety of these impacts that I'm going to discuss. The first is housing impacts that might result if SNC hired additional employees during the license renewal period.

Plant Hatch is considered to be in a low population area. The area does not have any housing growth control measures. However, SNC has not identified any increases in staff related to license renewal activities and doesn't anticipate a change in housing needs as a result of the Hatch Plant ongoing operations.

Additionally, we interviewed real estate professionals in the area and concluded that the impacts on housing during the license renewal period are small.

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

The off-site land use will not be affected since

there are no plant-related population-driven changes to land use. We would like to point out however, that the continued operation of the plant will provide a significant tax revenue to Appling County, which directly taxes Hatch. This amount currently represents 68 percent of Appling County revenues. Toombs County also benefits from having a greater percentage of the Hatch workforce living within its boundaries.

Possible traffic congestion could happen in the future as moderate population growth is anticipated. However again, these are not expected to be related to increases in the plant's employment. Next slide, please.

Historic and archeological resources appear to be unaffected by the renewal of the license, since there are no immediate plans for future land disturbance or structural modifications beyond routine maintenance. There are no known historic properties on site and there are none that are eligible for listing. Next slide, please.

Finally, the last issue in the socioeconomics arena is environmental justice. I think I mentioned earlier, environmental justice refers to the Federal policy in which Federal actions should not result in disproportionately high and adverse impacts on low-income or minority populations. The staff examined the geographic distribution of minority and low-income populations within

50 miles of the plant as recorded during the 1990 census. This evaluation was supplemented with inquiries to two local planning departments and social service agencies in Appling and Toombs counties.

It was found that in general, minority populations are small and dispersed, located primarily in the surrounding towns of Vidalia, Baxley, Douglas, and Waycross. No environmental pathways such as subsistence agriculture, hunting, or fishing were found that would result in disproportionate adverse impacts on these populations from license renewal activities.

Maybe a short break would be in order right about now, Chip. Do you want to just see if we have any questions at this point, and then I'll move on?

MR. CAMERON: Okay. Let me just ask, since you did cover the specifics of threatened and endangered species, let me ask Mr. Holland to give us the name of that one fish again, okay?

MR. HOLLAND: Robust Redhorse Sucker. It's one of many species of suckers, but this one has got problems. There is a known population out of three or four counties upstream. This guy here can probably offer a lot better information than I can.

MR. SHAW: This is Doug Shaw. This is a species that -- It's one that has avoided getting on the Federal

endangered list by agreement among several parties, but it is a rare species nonetheless, and we were just curious about that.

MS. PARKHURST: Thank you. I'm sorry, I don't know the answer to that, but it is something that I will make sure that we look at if we haven't already.

MR. CAMERON: Okay. Thank you. Other questions on the areas that we've covered so far on specifics? Sarah --

MS. BARCZAK: I had a question about the -- I was going to drop this in my comments, but I'll ask it now while you can answer it. On the heat effects that were looked at, it looked like specifically in regard to the Sturgeon population, although I'm sure it was looked at in other ways, I know that the EPD, Environmental Protection Division, does require river monitoring and quarterly reporting of the temperature, the discharge temperature maximum. There isn't from what I'm aware, what I've been told by the EPD, a maximum discharge temperature required within the permit for Hatch. The temperature listed in the GEIS, the maximum temperature in the mixing box was listed at 94 degrees Fahrenheit in the summer, and 54 degrees Fahrenheit in the winter. I was wondering if the Nuclear Regulatory Commission, though a permit required by the EPD is not required, is going to look at that impact of having a

94 degree Fahrenheit maximum discharge temperature. Is that going to be looked at? I know there's no permit requiring that to be looked at, but --

MS. PARKHURST: At Hatch itself, or in the GEIS process, in the generic process of evaluating these issues? For Hatch Plant?

MS. BARCZAK: Can you say that again? I didn't quite hear that.

MS. PARKHURST: Are you asking in terms of whether NRC is looking at it for the Hatch Plant? The discharge temperature?

MS. BARCZAK: Yes. For Hatch specifically.

MS. PARKHURST: Andy, do you want to field that one? I think we've got the temperatures listed and I don't know them right off the top of my head on what their discharges are.

MR. CAMERON: Can I just ask, to make sure that we all understand what the implications of Sarah's questions are, and Sarah, correct me if I'm wrong on this. If the Category 1 issue was bounded by a certain temperature and the Hatch permit is possibly above that temperature, then would that constitute significant new information that would cause that Category 1 issue to be looked at as a Category 2 issue? Is that what you're asking?

MS. BARCZAK: Yes, and that in the water-use

section, where it refers to the Georgia EPD permit for Hatch, the temperature monitoring and the quarterly date and even monitoring being done, it doesn't -- that permit doesn't address the maximum discharge temperature. So I'm asking is it possible for the NRC to go above and beyond, knowing that there isn't a discharge temperature issue there, although the permit is not in place.

MR. CAMERON: Okay. Thank you, Sarah.

MR. KUGLER: Okay. Let me try to make sure I understand it. I think what you're asking is that since the permit does not limit the maximum temperature, is there something that the NRC will do since a higher discharge temperature could potentially affect the aquatic life, is that? Okay.

MS. BARCZAK: The person I had spoken with at the EPD said that for once-through plants, they generally have a maximum discharge temperature of 90 degrees Fahrenheit. Then he confirmed that there wasn't a maximum discharge temperature for Hatch. Then knowing those two numbers, I wondered if that's something that should be addressed.

MR. KUGLER: Okay. I think I understand the question. I would probably have to speak to our aquatic ecologist to get a full answer, but one point that I'll make is that I believe the reason that there is a limit for the once-through cooling plants, is that the volume of water

they are putting back into the river is much greater than the volume of water that Hatch will be putting back into the river. So the effect on river water temperature and on the aquatic life in the river would be much greater. The amount of water that Hatch is putting back into the river is a much smaller percentage of the river flow, and so its effect on the overall temperature in the river is much smaller. I would, without absolutely knowing for sure, but I believe that is probably why the Georgia Department of Natural Resources did not impose a specific limit for them. We will need to talk to our, you know, the specialist to gather more information on that.

MR. CAMERON: That will be considered as a comment to the Draft EIS to be addressed. Mr. Holland --

MR. HOLLAND: Just a comment. Just because the permit does not address the issue of water temperature, I don't think that excuses Plant Hatch from breaking the law of the water quality issues. I've heard this before in other areas, other than Plant Hatch, so I think you might need to take another look at it.

MR. CAMERON: Okay. Thank you, Mr. Holland. Any other questions right now before we move on? Okay. Go ahead over there and then we'll come back down here.

MS. GRES: Dusty Gres. I do want to say that while I don't represent a particular organization, I

live three miles west of the plant directly on the river. So my concerns are primarily river quality.

I do want to know when you considered the heat impact and when you did your environmental studies, did you make specific considerations of the fact that right now the temperature of the water has been abnormally high because of drought conditions which have been predicted to continue for a considerable period of time? We have noticed a considerable temperature increase in the river itself, and we want to know what impact you looked at in terms of the additional temperature increase, on the fact that the river itself is abnormally warm.

MS. PARKHURST: I really wish my aquatic ecologist was here because he could answer these things just like that. He's been through them.

MS. GRES: He would like the warm water issue too I imagine.

MS. PARKHURST: I'm sure. First off again, heat shock is not considered a problem for cooling tower plants. What you are putting out there is usually, you know, in a once-through cooling system you've got water coming in, it's going through condensers, it's coming out hotter and it doesn't recycle. Here we've got the recycling effect. I don't know what the exact temperature of the discharge is, but again, it's a Category 1 issue for good reason. One of

the things they do consider is the differences like you say, from drought years and so on. It certainly is -- it is something we look at the overall averages and kind of like the lower and upper bounds. That's part of the standard analysis here.

I think maybe we ought to go on because the next thing we're looking at is water use and quality. We'll kind of work right into this next one.

MR. CAMERON: Before we do, let me tap in right here with -- is it Doug?

MR. SHAW: Thank you. Doug Shaw again. I've got two quick questions, I think they're quick, about the endangered species and the potential impact to fish. I'm looking for clarification. I read that this is a Federal review and a Federal action that you are looking at. Does that mean you only look at Federally-endangered or threatened species, or do you also look at State-tracked species, those species that are tracked by the State Natural Heritage Commission, or DNR.

MS. PARKHURST: I believe we look at the DNR species. Yes.

MR. SHAW: The Natural Heritage Commission is part of the DNR.

MS. PARKHURST: Yes. That's part of the analysis.

MR. SHAW: Just as a follow-up to Mr. Holland's

comment that Robust Redhorse Sucker and others, may be some of those tracked species.

Secondly, what were the -- you said the entrainment and impingement study was a 5-year study? Do you know the years that was conducted in?

MS. PARKHURST: It is in the document. I think that those are fairly early, and that there's additional survey information that occurred more recently, but the specific impingement study is a 5-year study, and Andy will check into that. Again, it's in the document.

MR. CAMERON: We'll put that on the record too when it's found. In the meantime, why don't you continue Mary Ann, and then we'll come back out to you for questions on Mary Ann's presentation before going on.

MS. PARKHURST: Okay. One of my problems with this is that my slide numbers are so small I can't really read them. Slide 41, please. I need better or more magnification here.

Hatch obtains its cooling water from the Altamaha River. The impact of consumptive water loss on the downstream communities is associated with fluctuations in the river surface elevations. Hatch's withdrawals during average flow conditions reduces the river elevation about 0.4 inches. During low flow conditions, which perhaps this is one of them, the withdrawals may be responsible for a

decrease of about 1 inch in elevation. Potential water use conflicts due to consumptive losses of stream flow are considered small. Next slide, please.

The plant's potable water supply is obtained from three groundwater wells onsite. The plant does not use municipal water supplies. The water quality and level of the groundwater's aquifer is not significantly affected by plant use. The water quality of plant discharges is regulated by their National Pollutant Discharge Elimination System permit, otherwise known as NPDES.

The State of Georgia retains the authority to regulate water quality on water supply at Plant Hatch. NRC's decision in this NEPA process does not override the State's ability to regulate water quality or water supply requirements for the facility. We consulted with the State to ensure that the facility is currently in compliance with water quality and water supply permits. The State has responded that it is currently unaware of any expected changes in the facility's permits.

However, compliance with environmental quality standards and requirements is not a substitute for, nor does it negate the requirements for NRC to weigh the environmental consequences of the alternatives in this NEPA process. Next slide, please.

The environmental issues associated with the

uranium fuel cycle and solid waste management are discussed in the GEIS. There are no Category 2 issues associated with this particular issue. No new and significant information was identified during the Hatch license renewal review. The GEIS has concluded that impacts from the uranium fuel cycle on license renewal are small. Next slide, please.

Environmental issues associated with decommissioning were discussed in the GEIS. Again, there are no Category 2 issues related to this particular issue -- to decommissioning. No new and significant information was identified during the Hatch license renewal review. The GEIS has concluded that impacts from decommissioning on license renewal again, are small. Slide 45, please.

Now to change the pace a little bit, I would like to talk about the alternatives to license renewal. This information is presented in the document in Chapter 8. Review of alternatives is especially important to the NEPA process. Because there are many possible energy sources and mixes of energy sources, we have to limit the analysis and we have done that, limiting it to those that have demonstrated capability and sufficient generating capacity to replace the Hatch Nuclear Plant.

The alternatives also include a no-action alternative, which would simply mean that NRC would not renew the operating licenses and SNC would decommission the

plants after operations ceased.

Two of the alternatives we did consider, that hold the most promise for large-scale replacement of power, are coal-fired power generation and gas-fired power generation. We looked at the impacts of these alternatives and we evaluated them using several options.

First off, we looked at locating one of these plants on the Hatch site, making use of its existing cooling water system. We also looked at the potential for closing the Hatch site and building a new facility at a new and different site, something we considered a greenfield site, which means a natural site that is not otherwise disturbed, perhaps currently forested.

We also evaluated the impacts of using the cooling towers in this new site versus using once-through cooling, either at a new site or at the existing Hatch site.

Now on this slide and on the next one, we can see what some of the other alternatives are, including coal, gas, and nuclear, and go on to look at imported power, wind power, solar, hydro-power, geothermal, wood energy. If we're not on Slide 47, let's go to 47 where we're looking at municipal solid waste, biomass-derived fuel, oil, nuclear, fuel cells, delayed retirement, which again, might be an extension on your license renewal process, conservation, and then a combination of these.

The alternatives aside from coal and gas-fired plants are not evaluated in-depth here because they do not have the capacity or the capability to replace the Hatch Plant. Next slide, please.

The alternative actions, including the no-action alternative, have environmental effects which reach moderate or large significance, at least in some impact categories. Let me go back and remind you what a small impact is. Small means the effects are not detectible, or are too small to destabilize or noticeably alter important attributes of the resource.

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

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

Rather than going through the entire analysis of how we looked at each of these different alternatives using the same categories that we used with the license renewal alternative, I want to just refer you to Chapter 8 of the SEIS where you've got all of the listings of how we evaluated each one, showing what we did with the main ones, the gas-fired and coal-fired, at the Hatch Plant, at a green field site, with cooling towers, which we call

closed-cycle cooling versus once-through cooling. So these can all be found there.

I do want to kind of summarize that, for the most part, the impacts on land use and ecology range from moderate to large for coal-fired and gas-fired generation because of the additional land that would be required for construction and use of these facilities.

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

I want to point out that we did look at combining alternatives, such as conservation, purchase power, and new generation. It is conceivable that a certain mix of alternatives might at some time in the future be capable of cost-effective replacement energy. However, it is unlikely that the environmental aspects of such a hypothetical mix could be reduced to small in all categories. In comparison, the impacts of renewing the Hatch licenses are small in each of these categories. Slide 49, please.

Finally, to summarize our preliminary conclusions from our environmental review. In contrast to the conclusions that we reached for the alternative actions, the preliminary conclusions for the proposed action of renewing the licenses for Hatch Nuclear Plant are that the

environmental impacts of license renewal are small for all impact categories.

We included the word "preliminary," because we are planning to use additional information we receive during this meeting and this evening's meeting, and the comments that come in during the comment period, before issuing the final report. That will allow us to make final conclusions for the Final EIS document, which should be out later next year.

MR. CAMERON: Okay. Thank you, Mary Ann. Let's go for a final round of questions before we talk about severe accidents. Sarah.

MS. BARCZAK: On page 6-7, under "Onsite spent fuel", the Commission found: "The expected increase in the volume of spent-fuel from an additional 20 years of operation can be safely accommodated onsite with small environmental impacts through dry or pool storage at all plants if a permanent repository or monitored retrievable storage is not available."

What does that really mean? Is it possible that if a permanent repository or monitored retrievable storage isn't available, that it's fine to continue operations at Hatch with storing waste onsite? Does this mean that onsite storage of highly radioactive waste at Hatch could permanently remain on the cement storage slab outside as the

staff concluded further in that paragraph? How can long-term environmental effects of dry cask storage at Hatch be known at this time when the first three casks, casks that have never been used before at any other nuclear plant, were just loaded this summer? How is it possible to know that the casks will not impact the environment 34 years from now?

MS. PARKHURST: This is an area that is outside the scope of the license renewal. There is a specific Environmental Impact Study or statement for evaluating that area. This is again, outside our scope of study and I'm wondering if there is?

MR. CAMERON: Andy.

MR. KUGLER: We do evaluate this one particular issue within the scope, but I believe, Barry, I'm not sure if you have further information. My read on that is that it's not intended to be permanent, but I'd have to go back and look to be certain about that. I think it's saying it's okay to store it until the permanent repository is available, but I would have to go back to confirm that.

MR. CAMERON: We're going to go to Cynthia on that.

MS. SOCHOR:. That particular clause has to do with after a plant closes down. That does not have to do with the current operation.

MR. KUGLER: But I think here question was, it's

not intended to be permanent, forever. The intent is still that there would be another repository at some point.

MS. SOCHOR: Yes. That's true.

MR. KUGLER: Okay.

MR. CAMERON: Okay. Thanks, Cynthia. Deborah.

MS. SHEPPARD: I have this funny feeling that I'm getting dumber and dumber as this meeting goes on. So please forgive me if what I'm asking should be obvious and I'm not getting it, but it says nuclear fuel is considered in the rule.

MS. PARKHURST: The management, it's the waste management end of it.

MS. SHEPPARD: So it is considered in the rule?

MS. PARKHURST: The GEIS looks at the fuel cycle and identifies those areas that are relevant here as Category 1 issues. Everything else is outside of the scope of what we are asked to address, as far as the environmental aspects of reviewing the applicant's Environmental Report and writing an Environmental Impact Statement for license renewal.

MS. SHEPPARD: Well, is onsite storage of nuclear wastes in the these untested casks going on at other facilities?

MS. PARKHURST: Untested?

MS. SHEPPARD: Well let's delete that word. Is

onsite storage of nuclear waste in casks occurring at other facilities?

MS. PARKHURST: Yes.

MS. SHEPPARD: Then is this issue plant-specific or generic?

MS. PARKHURST: This is a generic issue. Your specific, but there is a specific and separate evaluation of your onsite dry storage cask facility that's separate from what we're evaluating here.

MS. SHEPPARD: I'm afraid your regulatory procedures and comments must run opposite on this particular issue because obviously, the nuclear fuel that is sitting at that plant now is part of the fuel cycle, and your observation that it's a small impact, or nonexistent impact is -- I don't even know a word to use to describe it. It's just an observation from the public.

MS. PARKHURST: Thank you.

MR. KUGLER: I want to try to take a crack at clarifying this though, because I don't want to leave you with the feeling that we're not trying to answer your question.

I think what Mary Ann was saying is that when they established an independent spent-fuel storage facility out there, the dry cask storage facility, that was reviewed as a separate issue to establish it, okay? It's licensed under

Part 72, as opposed to being licensed under Part 50. So that action of establishing a storage facility is separate from license renewal.

Under license renewal we do consider the environmental impacts of onsite storage as part of the fuel cycle. So we are considering that, and that's why the issue is described and discussed in our Environmental Impact Statement. So it is considered -- the piece, I guess, that I would say is not considered is the storage of the fuel, eventually in a permanent repository. That is not part of our review.

MS. SHEPPARD: The impact of the storage onsite is considered small?

MR. KUGLER: Yes. That's correct.

MS. SHEPPARD: How did you make that assessment?

MR. KUGLER: Well, that assessment was made in the Generic Environmental Impact Statement in more detail. In this Environmental Impact Statement what we did, because it was a Category 1 issue, was look to see if there was any new and significant information related to Hatch and its storage of fuel. Since we did not find any, we accepted the conclusions in the Generic Environmental Impact Statement for Hatch.

MS. SHEPPARD: Did you evaluate such things as hurricane conditions, flooding, tornadoes, weather-related

elements and those kinds of things?

MR. KUGLER: I would have to go back to the GEIS to tell you exactly everything that was considered, but I'm sure weather was an issue that they considered in evaluating the design of the facility itself. The actual storage facility has to be designed to deal with design-basis conditions including weather at the site. That would also include seismic and things of that nature.

MS. SHEPPARD: I have another question. How exactly do you assess the cost for the storage of the spent nuclear fuel onsite and the unknowns regarding the cost of nuclear fuel storage?

MR. KUGLER: If you're talking about the cost to the utility to store it?

MS. SHEPPARD: Yes. How do you assess that?

MR. KUGLER: We do not assess that.

MS. SHEPPARD: Then how do make a comparison about the alternative sources of energy including conservation that are sufficient? You appear to have under-evaluated without having a mechanism to identify and evaluate the cost of what you do. It appears from your presentation, that you are not evaluating the full cost of continuing the Hatch license and extending it.

MR. KUGLER: That issue would be evaluated by the licensee. Really for us, the cost is not an issue. What we

are evaluating are the environmental impacts, and determining whether the environmental impacts of license renewal are significant, or what level they reach, what the environmental impacts of the alternatives would be, and making a call on whether the environmental impacts of the alternatives are greater or lesser than the alternative of license renewal.

In terms of the cost, that call really comes down to the utility. If they find that it is more expensive to run this plant than it would be to implement one of the alternatives, then I would assume that they would pursue the alternatives as being more cost-effective, but that is really not an issue that we are concerned with.

It's sort of like a driver's license in a sense. If we renew the license, we are giving them a license to operate. They can decide not to if they find it's not cost-effective. We are not requiring them to run for another 20 years. Do you see what I'm saying?

MS. SHEPPARD: Yes, and I can see where you are doing an environmental assessment on, say, a coal plant, to make a contrast, although I'm not sure whether these generic issues were included there, but I don't see how you can make a finding that the environmental impact to conservation and efficiency, and investments, and others of those kinds of things is greater than the environmental impacts of

continuing a nuclear facility and having nuclear fuel stored onsite.

I don't understand how you can make that comparison unless you are doing a cost-benefit analysis. You are telling me you are not considering the cost of the true alternatives. You are considering the environmental impact.

MR. KUGLER: Right, right. We really only look at environmental impact. I guess the closest we come to considering cost when it comes to alternatives, is we discuss it in terms of capable and feasible or practical. I guess you could possibly come up with an alternative that could replace that amount of power, but cost so much that we wouldn't consider it because obviously, nobody's going to implement it because it would be too expensive, but we don't really go into cost per se. We look at if you wanted to replace this much power, how could you do it? One of the possible alternatives we look at is a combination of conserving and some other amount of replacement power.

I guess I would say, we don't consider it practical to replace the Hatch units by conserving 1,800 megawatts of power. We don't think that's something that could actually be done. I believe in the draft we gave credit for 500 megawatts of conservation, which is a lot of power, and then combining that with some other alternative

power source to make up the difference. Then what are the environmental impacts of that? Certainly if you could do it all with conservation, what are the environmental impacts of that? They are basically none.

I understand what you are saying in that regard, but we have to consider what could practically be done to replace this power. So we have to look at a combination in that regard.

MS. SHEPPARD: The argument falls apart because of the cost of investing in nuclear waste. You are speculating on one side about a situation which is known. You do know how to increase efficiency in energy. You do now have information. You have a lot of information about Hatch, and as far as I know, the real issues are the cost of that.

So we've got one alternative that we really do know how to accomplish, but it is perhaps costly. We have another alternative that's continuing to operate nuclear facilities without an end-waste disposal and we don't know the cost of that. You all are telling us that is the preferred alternative, and I think you're telling me that you don't know the cost associated with that.

MR. KUGLER: Well, I think we do know the cost of storing fuel onsite. I think the licensee could clearly indicate how much it costs them to store onsite, but I understand your point. I think what you're saying is, did

we consider the cost associated with onsite storage of this fuel for some period of time which is not specified entirely? In considering that, it might become prohibitive.

MS. SHEPPARD: Right.

MR. KUGLER: Is that? Okay. I understand the comment.

MS. SHEPPARD: Okay. I appreciate it. Thank you.

MR. CAMERON: Thanks, Deborah. Let's go to severe accidents. We're going to turn to Michael Snodderly who is on the NRC staff, to talk about Severe Accident Mitigation Alternatives. Mike.

MR. SNODDERLY: Thank you, Chip.

As Chip said, my name is Mike Snodderly. I appreciate your interest in the Draft Environmental Impact Statement. I'm a reactor systems engineer in the Probabilistic Safety Assessment Branch of the Nuclear Regulatory Commission. As Mary Ann mentioned, I'll be describing our review of the environmental impacts of postulated accidents during the license renewal period. This is addressed in Chapter 5 of the Draft Environmental Impact Statement. Can I get Slide 51, please?

During our review we considered two classes of events, design basis and severe. Both of these classes of events have been shown to pose no undue risk to the public health and safety because core damage is either prevented,

or the probability of such events has been shown to be small.

Let's first discuss design basis events, which are postulated events that a plant is designed and built to withstand without allowing core damage, thereby eliminating the consequences of the event. For example, Plant Hatch has been designed with core cooling systems to accommodate an instantaneous break of a large reactor coolant pipe, along with the loss of one power train. However, the accident at TMI-2 reaffirmed that core damage is possible.

We refer to postulated events with core damage as severe accidents. Severe accidents are primarily due to a failure of core cooling systems, and generally involve a combination of multiple hardware failures and human errors. The Nuclear Regulatory Commission set out to verify that the risk from this class of events was a small fraction when compared to risks that we are generally exposed to, and the goal that the Commission has come up with is one-tenth of one percent of those risks that we are generally exposed to.

To accomplish this goal the NRC requested that each existing plant perform an individual plant examination. Now this examination has evolved into a Probabilistic Safety Assessment at Plant Hatch. Thus far, the results of the examination at Plant Hatch and the examination at all the U.S. nuclear power plants including Plant Hatch, are

consistent with the Commission's safety goals that the frequency of core damage events are extremely unlikely.

Now that we have some background on design basis events versus severe events, let's look at how those were considered in the Draft Environmental Impact Statement.

Design basis events were not shown to be significant contributors to risk. This is not surprising because the plant has been designed to withstand the consequences of these events. So as we said before, when core damage is prevented, the consequences are eliminated, therefore, it is not a major risk contributor.

The staff has concluded on a generic basis that existing design basis event analyses are appropriate for the period of extended operation. Because this was concluded on a generic basis, it is considered a Category 1 issue.

Now the impacts of severe accidents are Category 1 and 2 issues. The only thing requiring a plant-specific analysis is the Category 2 issue. We are going to spend the remainder of the time that I have discussing the plant-specific aspects.

In particular, we evaluate whether there are any cost-beneficial safety improvements that need to be implemented as part of the license renewal. We refer to these potential improvements as Severe Accident Mitigation Alternatives, or SAMAs. Slide 52, please.

The purpose of this evaluation is to ensure that plant changes that reduce the risks associated with severe accidents are identified and assessed. We consider alternatives that either reduce the likelihood that an accident will occur, or that reduce the consequences of an accident. We don't focus purely on mitigation after an accident. The alternatives can be in the form of hardware changes, procedure improvements, training, and so on. So we try to take a broad look at the plant.

One thing we have found as a result of doing these assessments is that hardware changes are typically difficult to justify because of their cost, so we try to focus more of our attention now on procedure improvements and training. We will get more into the specifics of that in a moment. Slide 53, please.

Now I would like to explain the basic process that was used to identify and evaluate Severe Accident Mitigation Alternatives. We relied heavily on the Plant-Specific Risk Studies to identify sources of risk at the plant. So as I mentioned, we began that process in 1988 when we requested all licensees to perform a systematic evaluation of their plants -- model the systems. We have a lot of data concerning the reliability of those components that are used to prevent and mitigate accidents. So now we want to try to use that information to try to determine and quantify if

indeed, we are meeting the Commission's safety goals; that the risk from the plant is a small fraction of the risk that we as individuals take in our lives.

There were studies for both an internally-initiated event like a pipe break, and externally-initiated events that would be something like an earthquake, a fire, a tornado. In addition, we looked for insights that came from generic studies and plant-specific studies that have been performed for other plants.

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

What we're trying to say there is that obviously, if we came up with another train of core cooling, we would lower the risk at the plant, but that would cost hundreds of millions of dollars. So we need to try to achieve some type of balance between what is an appropriate modification or alternative. To do that, we have developed the staff's regulatory analysis guidelines. These are used to provide a consistent methodology so that when we complete the license renewal process, what we did for a plant in the Northeast or

the Northwest is the same as what we used for Plant Hatch. Slide 54, please.

Now that we have some understanding of the generic process, let's look at how it was applied specifically to Plant Hatch, because I would imagine that is what most everyone here is interested in.

First of all, candidate improvement that either did not apply to Hatch or had already been implemented or eliminated -- and as I said, this wasn't a new process that we just began as a result of the license renewal application. This process began back in the 1988 time frame, when we asked existing licensees to look at their individual plants for vulnerabilities, and to do that using probabilistic modeling.

The next step was to look at improvements that did not significantly reduce total risk. These were then eliminated. The minimum risk-reduction candidates were related to an Inter-System LOCA and recirculation pump leakage. Inter-System LOCA and recirculation pump leakage are important for pressurized water reactors, but contribute little risk to boiling water reactors such as Plant Hatch because they operate at lower primary pressures; typically about half the pressure of a pressurized water reactor.

Then each remaining improvement was assessed and assigned a level of risk reduction and an estimated cost.

The risk reduction was converted into a dollar value to allow a comparison between the benefits of the risk reduction and the cost. The improvements for which the cost was clearly higher than the benefits, were eliminated early in the process. Meaning, the implementation costs were greater than the maximum benefit associated with eliminating all severe accident costs. This cost was calculated to be approximately $500,000. So in other words, if the alternative was estimated to cost more than $500,000, we wouldn't look at it further because in order to justify $500,000, you would have to eliminate all the risks associated with the plant as currently modeled.

The final criterion considered is whether the risk reduction is associated with aging effects. During the period of extended plant operation this environmental assessment was looking at the impacts of extending the plant operation for another 20 years. So when we looked at improvements related to Severe Accident Mitigation Alternatives, we were trying to focus on those with alternatives whose benefits are driven by aging effects. Any candidate improvement with a favorable cost benefit ratio that is not associated with aging effects, would be processed by the staff under the plant's current operating license. Let's go to Slide 55.

Basically, over 100 candidates were identified for

subsequent evaluation. Of these, 22 were already implemented as part of the individual plant examination process or on the licensee's own initiative. So this is really the key point that I'd like to make this afternoon. That is, as a result of the individual plant examination process and work that's been done by the staff and the licensee, we found this to be a very valuable tool. As a result of that, 22 of the candidates evaluations were already implemented. Now if we had just started that process specifically for license renewal, we may have found those 22 alternatives, but they had already been found as a result of the work we've been doing since 1988.

In addition, 27 had a clearly negative net value, and 56 were not applicable to the Plant Hatch design, or offered minimal risk reduction. More detailed evaluations were performed for the nine remaining improvements, resulting in the determination that none of the potential improvements had a favorable cost-benefit ratio. Slide 56, please.

To sum up the results then, our overall conclusion is that additional plant changes to mitigate severe accidents are not required as part of the license renewal. Again, I wanted to emphasize that it's key to understand that the probabilistic safety assessments that have been done by Plant Hatch, and the improvements that have resulted

from that process during the current operating license are key, and resulted in 22 plant improvements that significantly reduced the risk at the plant. Therefore, it's not a surprise that we didn't find any additional ones as a result of the license renewal process.

As a matter of fact, if all plants had completed their individual plant examinations for internal and external events, this may have been categorized as a Category 1 issue and not a Category 2 issue, requiring plant-specific analysis. Because every plant hasn't completed their IPE and IPEEEs, the individual plant examination for internal and external events, we wanted to make sure that everyone had done an assessment to look at alternatives and make sure that cost-beneficial ones were implemented, as they have been at Plant Hatch. Thank you.

MR. CAMERON: Thank you, Mike. Any questions for Mike? Mr. Holland.

MR. HOLLAND: Mike, who does the existing analysis, the one that said that $500,000 it would be unacceptable to look at beyond that? Who does this analysis?

MR. SNODDERLY: It's a combination. The regulatory analysis guidelines, and I can give you -- Excuse me. I'll get the reference. This is the Regulatory Analysis Technical Evaluation Handbook; this is

NUREG/BR-0184. This is what we, the staff use. Two inputs you use from that are the estimated core damage frequency and averted person REM and frequency.

Now those things are determined by, in our case for Plant Hatch, we used the Plant Hatch Individual Plant Examination and their updated Probabilistic Safety Assessment. We also have done Probabilistic Safety Assessments for plants similar to Plant Hatch, and we compare our results with theirs to make sure we are in the same ballpark; that we didn't miss anything, or they didn't miss anything. So it's a combination of those Probabilistic Safety Assessments feeding in, to make the calculation to determine that $500,000 number.

MR. HOLLAND: Mike, I'm probably the most uneducated human in this room and I've got one question for you that I'm going to make my final comment on this thing. Do you live near one of these sites personally?

MR. SNODDERLY: Yes. I have worked at a plant and I guess, yes.

MR. HOLLAND: Okay. I find the idea, I mean, just a mere -- that someone could believe that human lives aren't worth more than $500,000 is totally unacceptable. It's beyond belief. I can't reason it. I can't believe it. My God, some doctor bills come to almost that much. God, can you all go back and do better than this? I'm just going to

-- I can't believe this is the way people think. You've got to do better than this.

MR. SNODDERLY: I appreciate that, Mr. Holland. Let me see if I can try to give you a greater perspective. I mean, give the perspective of the Commission and how we have tried to relate the risks associated with severe accidents to those that we take in our everyday lives.

What they have tried to do is, through the Severe Accident Policy Statement, they tried to assure that -- the goal is that it be a small fraction, one-tenth of one percent of those risks associated with early fatalities and latent cancers. The modeling that we've done has shown that it is a small fraction at .1 percent.

MR. HOLLAND: A small fraction. I used to work for an organization that billed the government at the end of every month. To ensure that we got our payment within 10 days, do you know what we put on there? We will give you back one-tenth of one percent. Do you know what? That guaranteed us getting our money.

MR. CAMERON: Mr. Holland, we're not catching you on the record here. I think that might hurt your point.

Are there any other questions on this before we go to the final, or the preliminary conclusion? Yes, Deborah.

MS. SHEPPARD: This is just a general question and you all might not be the right people, but I believe I read

somewhere that the Southern Company is spending $14 million to proceed with this re-licensing. If that is correct, can anybody answer that?

MR. CAMERON: I think that, I guess I would -- off-line if the Southern Company wants to talk to you about that information, they can do that, but I don't --

MS. SHEPPARD: Okay. I was just curious when your Department quoted that number.

MR. CAMERON: All right. We're going to turn to Andy again, and then give you one last chance if you have any questions for Mary Ann or Andy. Then we want to go to a few statements. Andy.

MR. KUGLER: Okay. Before I get into the balance of my presentation, the question had been raised earlier about the years that the impingement and entrainment monitoring were done. The information appears in the Draft in Section 2.2.5 just for reference later. It indicates that the five years that they monitored were 1975, '76, '77, '79, and '80. That's where you will find it in the Draft.

To summarize, Supplement 4 to the GEIS -- the Draft Environmental Impact Statement for Hatch -- contains the results of the staff's review of the potential environmental impact of the renewal of the Hatch licenses along with our preliminary conclusions. The last bullet on this slide is just there to remind you that the overall

decision of the Agency on the renewal of the Hatch licenses is not based purely on the environmental review that we're discussing tonight, but it also includes the safety review that we discussed earlier. Slide 59, please.

Which brings us to our preliminary conclusions that based on the findings in the GEIS, Southern Nuclear's Environmental Report, consultation with local, State, and Federal agencies, and our own independent review, including our review of the comments received during the scoping process. Slide, please. The staff concludes that the adverse environmental impacts of license renewal for Hatch, Units 1 and 2, are not so great that preserving the option of license renewal for energy-planning decision makers would be unreasonable.

That gives you our preliminary conclusions, but now we are looking for input from members of the public. Slide 61, please.

The period for providing comments began on November 9, 2000, and will end on January 24, 2001. After the comment period ends, the staff will assess all the comments that we have received and determine whether or not they are applicable to the environmental impacts of license renewal. If appropriate, some comments may cause us to change the Draft Environmental Impact Statement. In the final version of our Environmental Impact Statement, we will

include in Appendix A, the comments received, how those comments were evaluated by the staff, and what the disposition of those comments were. So in the final document, you will be able to tell how your comments were addressed. As we did with the comments that we received during the scoping period, if the issues raised do not relate to the environmental impacts of license renewal, we will refer those comments to the appropriate program office.

For example, we might refer to the Operating Plant Project Manager in Headquarters, or to the Allegations Coordinator. In addition, issues may be referred to other agencies who might have an interest. Slide 62, please.

This slide gives you the current schedule for the environmental review at Hatch for the balance of our activities. As you can see, after the NRC finalizes its review we plan to issue the final version of Supplement 4 in July 2001. Slide 63, please.

This slide provides you with some contact information, including my phone number. I am the designated point of contact for the environmental review for the NRC. All the documents that we spoke about today are available on the NRC's home page on the web, at the address we've provided over here, www.nrc.gov, and most of them directly related to Hatch license renewal will be under the Reactor icon, and then go in under License Renewal.

In addition, the Appling County Library in Baxley has agreed to make a copy of the Draft Environmental Impact Statement available to the public, along with Southern Nuclear's application.

If you did not request or receive a copy of the Draft Environmental Impact Statement, there are copies available in the back and you can pick one up after the meeting. Copies are also available through the Government Printing Office. Slide 64, please.

Comments on the Draft Environmental Impact Statement may be submitted by mail, in person, or by E-mail. We have tried to provide as many options as possible to give you the option that may be most suitable for you.

This ends our formal presentations. I want to thank you all for coming out here today to listen to our presentation, and for your attention to us. Your participation is important to us because we understand that you know this site and this area better than we do. So we appreciate your input.

At this point I'm going to turn things back over to Chip.

MR. CAMERON: Okay. Thank you, Andy. We do have some statements from the members of the community coming up. I just wanted to check in with you on a summary, okay? We'll have some questions, perhaps final questions for you

on the Draft Environmental Impact Statement, Andy had told you what the preliminary conclusions was.

There won't be a Final Environmental Impact Statement or a final conclusion on Environmental Impact Statements until after all the comments of the public have been received and evaluated.

We'll just mention that there is going to be a Safety Evaluation Report done in February. The Advisory Committee on Reactor Safety is going to look at that Safety Evaluation Report. They are going to have comments. All of that safety information is going to come together with the Final Environmental Impact Statement, whatever that is going to show. We don't know what that will show yet. That will be combined and considered by the staff in making it's decision? Is that basically correct? Then it will finally be approved by the Commission. Okay, good.

Deborah, you had a question I believe, before we move on to formal statements?

MS. SHEPPARD: Again, I want to make sure I understand the roles that each of you are playing. Everyone but Ms. Parkhurst is a direct employee of the Nuclear Regulatory Commission?

MR. KUGLER: That's correct.

MS. SHEPPARD: That's correct. In the case of Ms. Parkhurst, your firm was contracted by the NRC to prepare

what portion of this statement?

MS. PARKHURST: Assist them with the preparation. We were contracted to assist them with the preparation of this document; assist them with the review of the application of the Environmental Report that SNC provided, and assist them with writing the Draft Environmental Impact Statement.

MS. SHEPPARD: Okay, so your part in it is the primary outside expertise that has gone into the project?

MS. PARKHURST: That's correct.

MS. SHEPPARD: I would love to know if you would share with us just a couple of your other clients, and I'd also love to know how many people participated in this from your firm and what direct expertise those people have in Southeast watershed hydrology, biology issues.

MS. PARKHURST: I'm not sure what is appropriate to respond on that. I will mention that everyone from my organization and from NRC who is involved in writing the document is listed in one of the appendices, along with our specialties. We've got a lot of expertise from a lot of widespread areas. That's one reason that the NRC came to us to look into this area.

MR. CAMERON: Does the expertise and all listed in the --

MS. PARKHURST: There isn't a -- the specific

areas that they addressed or evaluated are in one of the appendices along with our names, our organizations, and the areas specifically, that we were working on in the document is in one of the appendices, I think it's B, Appendix B in the document.

MS. SHEPPARD: I'm sure I can find that, but I'm just very curious if you could share with us your knowledge or what specific expertise your team had on Southeastern United States aquatic systems and hydrology and biology.

MR. CAMERON: May I ask you, whatever you know, I think would be appropriate for you to share on that particular issue.

MS. PARKHURST: I'd rather have -- Barry, please.

MR. CAMERON: Barry.

MR. ZALCMAN: Let me try to respond to this. The Agency has a collection of technical specialists on this task and we also contract, and Mary Ann Parkhurst is a representative of Pacific Northwest National Laboratory. We actually have a suite of national laboratories that work with us.

It's fundamentally important when we begin the audit process that we bring technical experts that are actually considered experts in the field, but we actually come to the site area and we coordinate and actually have dialogue with those that are specialists in the region,

including State representatives on the water side, State and local representatives on the socioeconomic issues so that we have technical expertise. We're talking typically, a national lab employee that at least has a bachelor's degree. Moreover, they can have master's degrees. Some of them have PhD's. The group that we have are typically seasoned individuals that have broad expertise for an extended period of time in the environmental regions.

Are they specifically working on a watershed in Hatch vicinity? Absolutely not. Are they technical experts in their field? Typically they are, and if they are not experts they are overseen by experts in the field, but it's with the coordination and the dialogue that we maintain through audit, through this review with the State and local organizations that help us round out what our understanding is of the problems and of the challenges in this area. I hope that explains a little bit. If you'd like, you can provide your CV and John is here if you'd like to your background. You'd have to demonstrate the background that these individuals have to talk to these issues.

MS. PARKHURST: I can at least mention that. I have an undergraduate degree in chemistry, a master's in ecology, and a master's in radiological science with many years of project management.

MS. SHEPPARD: From what university?

MS. PARKHURST: Is there a basis for that question?

MS. SHEPPARD: Well, yes there is. I mean, you all come from the Pacific Northwest and that's about as far away from this plant as you can get. It's just a common question.

MS. PARKHURST: It's not necessarily that we're all from the northwest even though that's the organization.

MS. SHEPPARD: Yes. I understand that. You could have a University of Georgia PhD on your staff.

MS. PARKHURST: One of our ecologists that supervises the rest is a Duke University graduate, PhD graduate in ecology. Again, we try to work in those that have specific area involvement as well, and have done this consistently.

MS. SHEPPARD: Okay.

MR. CAMERON: Do you have one more question?

MS. SHEPPARD: I'm sorry. I'm not trying to belabor this, but the other clients, if you could just share with us three or four or maybe five of your other clients that would be useful.

MR. JAKSCH: Let me talk to the socioeconomics. I have a PhD and a master's in environmental economics from Oregon State University. I spent about 13 years working for the U.S. EPA in Washington, D.C., most of which my focus was

down in this area. So that kind of gives you an idea of some of the capabilities that we have. I'm also with the lab out in the Pacific Northwest.

MS. SHEPPARD: Okay. Thank you for that.

MR. CAMERON: Just put your name on the record for us too.

MR. JAKSCH: I'm John Jaksch.

MR. CAMERON: We're going to go to Cynthia.

MS. SOCHOR: My name is Cynthia Sochor and I have a BS in mathematics and a BA in political science from the College of Charleston in Charleston, South Carolina, as well as an environmental engineering degree from Clemson University in South Carolina.

MR. CAMERON: Okay. I think we need to get on to the statements.

Do you want to state any of your work that has been done on similar areas?

MS. PARKHURST: Are we talking clients here, or are we talking projects like?

MR. CAMERON: Well, I think that the most important part of it based on what Deborah was saying, was projects that were similar analysis.

MS. PARKHURST: Similar?

MS. SHEPPARD: I'm just trying to understand who your firm primarily worked for.

MS. PARKHURST: Mostly government agencies. We do private work as well.

MS. SHEPPARD: Do you work for any utilities per se?

MS. PARKHURST: Certainly not in -- I see Barry getting up and I would want him to address that. I shouldn't --

MR. CAMERON: We need to stop this. But this is an important point. Barry could you just address the conflict of interest issue? I think that's what Deborah is getting at, and then let's move on.

MR. ZALCMAN: The Agency is very careful in assuring that we do not have a situation where an individual employee would work for a utility on the same type of issue that is actually associated with developing the final information that the Agency would be using. So the reason that we use national laboratories as opposed to private consulting firms that actually do consultations for the industry is to remove any appearance of conflict. Wherever we identify an appearance of conflict we terminate that activity. So we're very careful; very judicious in who does or does not work for or with us.

MR. CAMERON: All right. Thanks, Barry. Deborah, I know you have most of the information you needed there, but right now I'd like to go to the people who have -- we've

really appreciated the comments and questions that we've heard already, and I think it provides a lot of useful food for thought at least for us. I'd like to go to the people who wanted to make a more formal statement. And I think it would be appropriate to go to the Southern Company -- they initiated the application for this. So I'm going to ask Mr. Lewis Sumner, who is the vice-president for the Hatch Nuclear Project to start us off.

Mr. Sumner, do you want to come down here? Why don't you?

MR. SUMNER: Just a little bit about me before I get started. When the question was asked, have you ever lived around a nuclear power plant and the answer was yes, I was at Plant Hatch for 22 years and I raised a family in this local area here, so I'm as concerned about the effects that Plant Hatch has on the environment as anybody, because it directly affects not only my family when they were here, but also I'm concerned about the long-term effects on my family from what might have happened as long as they were down here in the local area.

I started here in Plant Hatch back in 1975 out of the Georgia Institute of Technology with a master's degree in nuclear engineering. I started as an entry-level engineer and my last position before I left was the General Manager of the plant. I have held several positions there.

So I've had a chance to see the plant from an entry-level position all the way up to managing it before I left.

My comments are like this. Number one, I want to thank the NRC for what I believe is a very thorough review. It looks like it has been very comprehensive. I think some of the conclusions that they came to are some of the same conclusions that we came to when we did our review of the environmental effects of Plant Hatch.

We wouldn't be doing this if we didn't feel like as a company it was the right thing to do, and I wouldn't be promoting it if I didn't feel like personally it was the right thing to do. Considering all the contributions that Plant Hatch makes not only to the local area, but to the State and local economy and some other security issues I'll mention in the end.

We have been working on this process since around December of '96, so we've been at this for a few years because there is a tremendous amount of work that goes into preparing not only just the environmental review, but the other parts of the license renewal process that you don't see here today. I do believe that the report, the summary of which you've heard today, demonstrates the same conclusions we reached. The impact of renewal is small and certainly acceptable for the renewal period.

The people that operate and maintain Plant Hatch

do live in the local area, so the environment that they are affecting is also the environment that they live in. So they try to be good environmental stewards of the very areas that they both live in and recreate in, and their families live in as well.

We are committed to being a good neighbor while we are trying to carry out our mission of generating electrical power for this area of the country. We think we make a major contribution to the local and State economy, as well as to the quality of life in this area by supplying electrical power to power the things that we have become accustomed to. You know, the lights in this room that extend our usefulness and our ability to get things done to the computers we use here to connect ourselves to the outside world and make us more efficient, as well as simple things such as the heating and cooling that make cold nights bearable and very hot days bearable also. So we think we have a mission that does promote, you know, a quality of life improvement here.

I want to thank the neighbors that have continued to support us. We certainly do have an impact on the local economy, on the environment, and on the local area as far as organizations and things that our people not only that work at the plant participate in, but also work toward to help make the local community better.

Like I said earlier, we are continuing to work hard to be good environmental stewards and be a significant contributor to the local area. I personally also believe that we promote the security of reliable electrical power in this country by being an alternative means of generating electricity. Some others were mentioned up there earlier today, and I think if you read in the newspaper about some of the issues that are going on in other states about the reliability of alternative means of generating electricity, you don't see those issues related to our particular form of generating power. So I think we are a viable and valuable contributor to the energy security mix of the United States.

I believe that this is the right thing to do for us. I think it's the right thing to do for the local area. I appreciate the review that the NRC has done and I believe that we will demonstrate as time goes on that we are good environmental stewards of our facility, of the environment, and this is the right thing to do for us. Thank you.

MR. CAMERON: Okay. Thank you, Mr. Sumner.

We have two local government officials here, I believe that we'd like to hear from, and then I'd like to go to Sarah Barczak from Georgians For Clean Energy, and then we have one other speaker.

Steve Rigdon, from the City of Baxley. I believe the Mayor?

MR. RIGDON: Yes.

MR. CAMERON: Mayor Rigdon, okay.

MR. RIGDON: My name is Steve Rigdon. I am the Mayor of Baxley. I was in this room in May when we had one of the hearings, and at that time I spoke in favor of renewing the licenses.

As I said at that time, I was not a technical person. I didn't understand some of the technical terminology that was used that day, nor could I speak in a lot of the technical terms, but I've lived around Plant Hatch ever since it started. I've raised my family here. I've got a lot of friends that work there.

I have the utmost respect for the personnel that work there. They have the highest integrity and are very concerned about environmental issues and all the issues that were discussed here today, they are very concerned with.

I have followed their safety record on a local level and I know that they have a lot of checks and balances that they have to check every day, and I feel comfortable with those.

After having seen the review today and having read some of it myself, I am more comfortable today than even in May, that the renewing of the license process is the thing to do. I very much appreciate the work that went into it. I had no idea all of the research, the verification, and all

that went into the process for the re-licensing.

I am comfortable with the level of work that was done and I'm here to say that Plant Hatch has been good for our community. They are good neighbors. They are very responsive, and I continue my support of Plant Hatch, as well as recommending to the NRC that they continue with the re-licensing process. Thank you.

MR. CAMERON: Okay. Thank you, Mayor Rigdon.

Let's go to Mr. Jeff Baxley, of the City of Baxley.

MR. BAXLEY: Thank you, Chip. I'm Jeff Baxley. I'm the City Manager of the City of Baxley.

I probably should have come down with our mayor and stood behind him and just nodded as most good city managers probably should do, because what I have to say basically echoes what he said. I too was here last May to lend my support for this re-licensing effort, and I'm here again today for that same reason.

I would like to commend the NRC for the in-depth process in looking into this re-licensing issue with the environmental impact. As I mentioned in May, I certainly trust the rules and regulations the NRC set forth, but I guess more importantly, because I do live in Appling County and in Baxley, and was born and raised there and have lived there since 1956, I have all the confidence in the world

that the people that work at Plant Hatch will be sure that these rules are implemented, and provide a safe place for my family as well as their families.

I think there are about 800 employees at Plant Hatch. About 300 of those live in Baxley and Appling County. I probably know, I would say 80 percent of those employees on a first-name basis. I can assure you that they would not do anything to jeopardize their family or their friends, or certainly the environment.

Many of them enjoy -- I heard others comment on some of their concerns and I share those concerns. I share them for the same reasons you do. I don't live on the river. I live about 10 miles from it, but I enjoy going to it almost every weekend to hunt and fish, and I would not be in favor or anything that would damage that. It is a wonderful resource and it's a place that I thoroughly enjoy. I want my kids and my grandkids to be able to enjoy that resource.

I do stand before you today in support of the re-licensing of Plant Hatch. The economic reasons as Mr. Sumner has already mentioned are obvious to us, but I think it is important. I am very pleased with the findings of NRC in their report today, and the fact that the option for re-licensing is considered reasonable. Thank you.

MR. CAMERON: Okay. Thank you, Mr. Baxley.

Let's now go to Sarah Barczak from Georgians For Clean Energy.

MS. BARCZAK: Hello everybody. Can everybody hear me? My name is Sara Barczak. I have been working with Georgians for Clean Energy for about a year. We are a nonprofit conservation and energy consumer organization that has been working to promote safe and environmentally sound energy policies for Georgia, for almost two decades. My primary expertise is in biology, and I work in our Savannah field office.

My organization has submitted written comments and presented oral comments at public meetings, etcetera, since the Hatch re-licensing process began. While I myself was not here in May, I did help put together the written comments that we submitted in June. I did read through all of the oral comments from the two meetings that were held back in May and I was very amazed, and struck may be the best word, by the fact that very few people actually spoke about the scope of what the NRC had requested, namely, the environmental impacts of Plant Hatch.

From those notes and also from what was said today, Mr. Cameron, who is was Facilitator back in May and now again today, had stressed that the purpose of the NRC being here is to gain insights on the environmental issues related to the Hatch license renewal application. As I

said, almost everyone spoke about how wonderful nuclear plant Hatch is for the economy and how Hatch has been such a good neighbor because it provides such a large percentage of Appling County's tax base, 68 percent in 1998 alone, and they don't know where they'd be without Plant Hatch. Yet economic studies in the Savannah River site region have shown that it isn't healthy for a region's economy to have a nuclear industry contributor that provides even as high as 14 percent of the local tax base. Such reliance is not healthy.

My organization is very concerned that the community is focusing almost entirely on perceived economic benefits and is overlooking the environmental impacts, along with the long-term economic growth implications, including the possibility that there could be a meltdown and catastrophic consequences to the local resources here.

I was struck by the fact that the sheriff of Appling County didn't talk about emergency planning concerns, security issues, and terrorists threats, but rather on how great the plant was or is.

People often spend a lot of time explaining where they are from which is very important. The highest vulnerability from the plant is within this local area. I am from Savannah, and we are also vulnerable in terms of an accident. I do care about what happens here. I am

concerned about this region, its people and land, and I do lay awake at night thinking about members that we have in this region and all of you. I want to stress that it isn't a job so to speak, it is a genuine concern that I have for you and this region.

Georgians for Clean Energy is here to tell the NRC that this nuclear plant should not be re-licensed for a variety of reasons, but as I said earlier, we are to speak about the environmental impacts of the Generic Environmental Impact Statement, Supplement 4, so I will speak about those.

We would like to state publicly that Georgians for Clean Energy does not believe that our written comments or our oral comments that we presented, and other organizations presented have really been looked at.

I probably didn't make myself clear in some of my questions, that it is hard to look at this GEIS and figure out, you know, was my concern addressed, or was the Altamaha Riverkeepers concern addressed? What were their concerns? What were other people writing in about? I didn't have the ability to find that very easily, and yes, now we know we can go through the Public Document Room, but that is a feat in itself. I have done that, but it's not easy.

We sent additional written comments to supplement our previous oral statements and thought that those efforts which were very time-consuming were for naught. All

statements submitted either in written form or orally should have been included in the Draft EIS as I had suggested earlier. Valid and strong statements of environmental concern were made and were supported by a multitude of documents that the NRC needs to pay attention to, and we are disappointed that the first team of reviewers did not.

So as a request to the panel that we have before us, we request that this panel reevaluate all of the oral and written comments concerning environmental issues that were previously presented to the NRC during the Environmental Impact Statement process.

Specifically, we take issue with Appendix D, "Organizations Contacted." Not one non-governmental, environmental, or conservation organization was contacted. It appears that in this Environmental Impact Statement, effort was put forth to contact Realtors, but not one group that focused on the environment, health issues, or conservation issues. The State of Georgia agencies that were contacted do not have expertise in radiation and its effect on species as a whole, and the ecology of the region.

The drought issue was commented on earlier as well, but I'd like to highlight this. Everyone here knows that we've been experiencing a very tenacious drought, and that water issues are in the forefront of many people's minds including our Governor. The Altamaha River is very

important as we all know, to this region for the wildlife, commercial fishermen, recreational enthusiasts, and more. Plant Hatch has to rely on water resources too, and it relies on them to an alarming degree.

According to the licensee, Hatch is permitted to withdraw a monthly average of 72 million gallons of water per day, with a maximum 24-hour rate of up to 104 million gallons per day from the Altamaha. Hatch's average is about 57 million gallons per day, with 25 million gallons returned to the river. So overall, on average Hatch consumes about 33 million gallons of water per day. That is impacting the river flow. That is a problem under severe drought conditions and could alter river habitat in unexpected ways.

Furthermore, we should not forget, and I hold this dear to my heart because of where I'm living in Savannah, we should not forget that Hatch is permitted to use a monthly average of 1.1 million gallons of water per day from the Floridian aquifer. We have our own issues with that in Savannah, with the dredging and everything else. That's what they are permitted to use. Their average is less than that, but that is what they are permitted to use.

When this plant was licensed, the severe concerns over our water resources did not exist. We weren't in drought conditions. We are now. These permits and conditions need to be reevaluated based on current laws and

regulations. If this were a new nuclear plant that they were trying to license, they would need to comply with all current State and Federal water usage and pollution-control standards. This license application renewal should be viewed in the same light. I know it's not, but that's what we feel that it should be. Yet according to this Draft GEIS, license renewal will not have an adverse impact on the Altamaha ecosystem. We challenge that determination. I am hurrying here, so bear with me.

Since Hatch was built, the Southeast has entered a period where we have had more severe droughts. We do not believe that the NRC has conducted a thorough and site-specific investigation of this issue. At the very least, the NRC needs to more accurately determine how Hatch impacts the region during extended drought periods. A consumptive loss of 3.1 percent during minimum discharge periods is not insignificant and certainly needs to be researched further. For instance, how does the NRC know whether or not the drought and the strain that Hatch places upon the river's flow during a drought, doesn't increase the stress on the already endangered Short-nosed Sturgeon to a level that the species can no longer handle?

Many of the reports that were referenced in the Short-nosed Sturgeon section of this Draft GEIS, were based on studies that were done in the 1970's and 1980's. So

conditions have changed and I think they need to be reevaluated.

Additionally, the GEIS didn't address concerns around discharge temperatures at the point it enters the river or within the mixing box. I did mention this earlier in a question, but I'll rephrase it. A maximum discharge temperature in the mixing box, which is reported to the EPD quarterly, was 94 degrees Fahrenheit in the summer. Does that effect the river more so during periods of drought, in which fish and plants, etcetera, are already stressed? What is the temperature at the discharge pipe on a daily basis? If that is not being measured, why not? These studies need to be done before a license extension can be granted.

Additionally, why hasn't the EIS addressed additional water quality concerns regarding the release of radioactive contaminants to the environment? We will identify further water quality concerns in our written comments, so look in the appendix next time and maybe you can read them.

Though many people at the first hearing seemed convinced that nuclear power does not release emissions into the environment, I would like to point out that radioactive water vapor is lost to the atmosphere every day. It is a fact of nuclear power plant operation. In Hatch's case, as I said earlier, an average of 33 million of gallons of water

per day is lost, primarily in the form of radioactive water and radioactive water vapor. It is unfair and misleading to the communities to be told otherwise.

Through the water cycle, the contaminated vapor is often deposited in the form of precipitation. This precipitation then makes its way into our rivers and onto the grass that our cows eat, and through the ingestion pathways, eventually to the milk in our coffee. State EPD Reports show that measurable levels of man-made radioactive contaminants are found in vegetation samples, and there are a number of rare and threatened species that are sampled and do show these levels.

How can the NRC determine that a license extension of Plant Hatch will not add to the stress of the many rare and threatened plant species in this area? Especially when many plants species are already undergoing stress under drought conditions, along with continuous contamination from the Hatch facility. It is an established scientific fact, that radioactive contaminants bioaccumulate up the food chain. There are of course, regulatory limits, but let's remember that these limits were not set with the health effects of low-level radiation exposure in mind. The limits are generally set to allow industry to operate. That's just kind of the way it is. It's not any comment on anyone in this room.

Studies on the effects of tritium, which is essentially radioactive hydrogen, a primarily man-made radioactive element produced during nuclear reactor operation, have found that it easily crosses the placenta and may have the greatest impact on the developing fetus. As water, tritium can easily enter our cells. Yet our drinking water standards base the tritium limits on the average-sized man. Cesium-137, which is also a man-made radioactive contaminant and gamma emitter, has been measured in fish, shrimp, and crab samples as far down as Wolf Island.

As Mary Ann said earlier, when she referred to seafood and said -- I'm paraphrasing here -- seafood as in shrimp and things like that, that really struck me that there is a bi-annual report that the EPD does, where they collect shrimp, and mussels and fish, and all kinds of things and it's in there. It's in the meat of the fish. Some of it's in the bones of the fish and they are not at levels that should necessarily send up a red flag, but they are there and they are very far away.

Cesium-137 mimics potassium and collects in the muscles and Strontium-90 mimics calcium and collects in our bones. It is a fact that the decay products coming off of nuclear plants, whether it is through the stack or directly into the water, generates Cesium-137 and Strontium-90. The

effects for instance, of Strontium-90 leads to many types of bone cancers. The elderly, children, and people with immune disorders are most susceptible to the effects of ionizing radiation.

At the meetings last May, people spoke about how the fish still taste good, maybe even better. Radioactive contamination is the most insidious form of pollution perhaps because it is the most sly. We can't see it, taste it, or smell it, so it's hard for people, including our regulatory agencies, including myself to understand it. The fish won't taste different. They'll just have stuff in them that may be affecting them and their offspring just as it may eventually affect you and yours.

Now I'm going to wrap up. Back to the economics that people love to talk about. Plant Hatch sits alongside the Altamaha River, Georgia's largest waterway, near prime agricultural areas and is two counties upstream from Georgia's beautiful Golden Isles. The interests of South Georgia's communities and the thousands of nature-based jobs that support at least one-fifth of our region's economy are impacted by the NRC's decision to re-license this aging nuclear plant. Georgians For Clean Energy demands that the NRC conduct proper, site-specific evaluations of the actual impacts of Plant Hatch on this region. Past plant operations, accidents, spills, worker contaminations, and

routine releases have to be considered which are already listed on the NRC's own docket and have obviously gone unread.

I'm not going to go through this list, but I had a brief list of Licensee Event Reports that happened the last week of August to the first week of September. Maybe I'll just submit this to Chip, but we had one on the 31st, the 4th, the 8th, the 11th, the 20th, the 25th, the 27th, and the 29th. Those aren't all that's required to be reported, and they are not necessarily all serious events, but some of them were and they need to be looked at.

Simply stated, the plant is aging as we are all aging, and there's no excuse for an unauthorized person to enter the plant. That was one of the things that had happened. The NRC needs to read the entire docket, which wouldn't be very fun at all. Every violation, every LER, everything going back to start-up. No one would allow this plant to be re-licensed if they sat down and read the entire docket.

Please include in the EIS review, new problems or incidences and indicators of problems at Hatch that have developed in the past few months. We strongly believe, given the extensive documentation that we have collected, that if a proper analysis were done, the NRC would have no other choice but to deny Plant Hatch's license renewal

application.

If this license renewal application goes through, there will be many heavy stones left unturned. Unfortunately, the heath of this community and surrounding regions is what we stand to lose and we can't afford that, nor do we accept that. Thank you.

MR. CAMERON: Okay. Thank you, Sarah. If you have a copy of that we could attach that to the record. All right. Our last speaker tonight, is it Dusty Gres? All right, Dusty.

MS. GRES: My name is Dusty Gres. I am the director of the Regional Library System, which covers the areas of Toombs, Tattnall, and Montgomery Counties, all of which border the Altamaha River. I also live on the Altamaha River, and since I don't see any of my neighbors here, I live closer to the plant than anybody in this room. I live three miles west on the Altamaha upstream.

I appreciate all of the information that is in the draft document. I can tell you that after working in the government documents business for 25 years, trying to help the public read and understand city, county, State, and Federal documents, this one ain't bad.

I would like to see more in the appendix in the initial draft document, and I do point out to the NRC the efficacy of indexing, which you don't do yet. As a draft

document it contains a great deal of information.

I am gravely concerned about the environmental impact, and I am gravely concerned about the fact that many of the tests were done earlier and have not taken into account certain environmental issues, particularly the drought.

When you look for instance, at the temperature of the water as it's going in, I happen to know what the temperature of the water was when it was coming out and we are not dealing with the fact that the water that's coming in has risen in temperature a great deal. Given the fact that -- Do you want to say that I am impacted because of the economic issues? Yes, because my patrons live in this area, but I don't get tax money from the plant.

I will say that I am in favor of the renewal. I am in favor of the renewal because I've lived next to a coal-fired plant. I've had a library next to a railroad track where coal trucks went by and I know that there are environmental impact issues that are greater in different kinds of plants. So I support this. I support it because I canoe down that river, I swim in that river, and I eat the fish out of that river, but I have seen that there is not a great deal of environmental impact right now and I can name at least 30 different plants and animals that are either rare or close the endangered list, that I personally have

identified on that property, that are growing. So I continue to support it in those terms, with the caveat that I believe that better testing needs to be done.

I also formally request the NRC, that since the counties that I represent in my public library are more counties than just Appling, that all documents be deposited in my library as well, because I have more of an impact than Appling County does since I have more counties that are within that service area.

MR. CAMERON: Thank you very much, Dusty. Thank all of you for your attention and also for the comments. We're going to be here again at 7:00 o'clock if anybody is interested in coming back, but thank you very much.

(Whereupon, 4:45 p.m., the meeting was recessed, to reconvene, at 7:00 p.m., this same day.)