Corrected Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: H.B. Robinson Steam Electric Plant
Draft EIS Public Meeting - Evening Session

Docket Number: 50-261

Location: Hartsville, South Carolina

Date: Wednesday, June 25, 2003

Pages 1-36

U.S. NUCLEAR REGULATORY COMMISSION

+ + + + +

H.B. ROBINSON STEAM ELECTRIC PLANT, UNIT 2

LICENSE RENEWAL DRAFT EIS

PUBLIC MEETING

+ + + + +

Wednesday, June 25, 2003

+ + + + +

The meeting was held at 7:00 p.m. at the Davidson Hall, CW Coker Auditorium, 300 E. College Avenue, Hartsville, South Carolina, Chip Cameron, Facilitator, presiding.

PRESENT:

CHIP CAMERON, FACILITATOR

S. K. MITRA

RICHARD EMCH

MARY ANN PARKHURST

BOB PALLA

BARRY ZALCMAN

DAN TANO

DUKE WHEELER

LANCE VAIL

SUE SARGEANT

SHELLY COLE

ALICIA WILLIAMSON

A-G-E-N-D-A

1

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

(7:00 p.m.)

FACILITATOR CAMERON: Good evening, everyone. My name is Chip Cameron, I'm the Special Counsel for Public Liaison at the Nuclear Regulatory Commission, and I want to welcome all of you to the NRC's public meeting this evening.

Our topic is the draft environmental impact statement, that the Nuclear Regulatory Commission has prepared to help it evaluate a license application request that we received from Carolina Power & Light to renew the operating license for the Robinson nuclear power plant unit 2.

And it is my pleasure to serve as your facilitator for tonight's meeting, and in that role I will try to help all of you have a productive meeting.

The Staff is going to tell you in more detail why we are here tonight but, basically, it is to give you some information on the license renewal process, and also the findings in the draft environmental impact statement, and also to hear from any of you who have comments or recommendations on what we are doing.

Our format is going to be a number of brief NRC presentations on various topics to set the context for you, and we will go out to you for any questions that you might have after each of those presentations.

We do have time reserved, during the meeting, for any formal comments that people might want to make on the issues, and that will be the second segment of our meeting.

The ground rules are real simple. If you have anything that you want to say, just give me a signal, and I will bring you this talking stick, as we like to call it, and please give us your name and affiliation, if appropriate, and we will try to answer your questions.

And, obviously, this is an important meeting, but we would like to keep it as informal as possible. So if you do have questions, please ask them. If you do have comments please tell us.

I wanted to do a more detailed introduction of the speakers, NRC speakers, and our expert consultants who are going to talk tonight before we get started, and this will allow me to go through the agenda for you, also.

We usually start out these meetings by having a brief, but more formal, welcome from the NRC manager who is in charge of the meeting. And we did have the branch chief of the license renewal branch, scheduled to come, Mr. P.T. Kuo, who could not make it, unfortunately.

So we are going to have Mr. Richard Emch start us out with a short welcome. Now, Rich is also going to be doing a presentation for you on the environmental review process, NRC's environmental review process, for license renewal applications.

So he will be coming up to do that, because he is the project manager for the environmental review on the Robinson nuclear power plant. And Rich is in our Office of Nuclear Reactor Regulation, where all of these license renewal applications are handled.

And Rich is a health physicist, he has a bachelor's in engineering physics from Louisiana Tech University, and he has been

with the agency for about 28 years. And his master's in health physics was from Georgia Tech University.

So, as I said, he will be doing the environmental review process, and a welcome for us. We want to make sure that you have the complete picture on the license renewal process, so we've asked Mr. S.K. Mitra, who is right over here. I think most people know him.

S.K. is the project manager for the safety review on the Robinson license renewal application. He has been with the NRC for about 13 years, and before that he was with private industry, with the General Electric Company.

And he has a bachelor's in electrical engineering, and he has a master's degree in nuclear engineering.

Then we are going to go to Mary Ann Parkhurst, who is right here. And Mary Ann is from the Pacific Northwest National Lab, and that is in the state of Washington. And she is the team leader for a team of experts that the NRC has tasked with doing the environmental review.

And Mary Ann is going to give you the meat of the draft environmental impact statement, the findings that have been made. And she is a staff scientist at Pacific Northwest Lab. She has worked on three other license renewal projects, doing the environmental reviews on those license renewal applications.

And she has a master's in ecology, and a master's in radiological science, as well. So we have a very, very qualified team working on this project, and with that I think that I will ask Rich to come up, and we will get underway with the meeting. Thank you.

MR. EMCH: Everybody welcome. My name is Richard Emch, I'm a senior environmental project manager with the Nuclear Regulatory Commission, I'm the lead project manager for the environmental review for the license renewal application by Carolina Power & Light for the H.B. Robinson Steam Electric Plant, Unit 2, that is the nuclear unit.

S.K., as we already said, is the safety project manager, and I'm in charge of the environmental review. And we welcome you here today, and hope that we will have a good meeting, and hope that you will give us lots of good input, that can be of use to us as we continue on with the review.

The application, CP&L made their application for license renewal in June of 2002, and we are continuing on down the process, which we will talk about a little bit as we go.

Here is what we are going to be talking about tonight. First we are going to have a broad look at the license renewal process, the overall process. S.K. Mitra is going to do that.

Then I'm going to come back up and talk a little bit, in broad terms, about the environmental review process, and then we are going to ask Mary Ann Parkhurst to come up, and she is going to talk about the details, the nuts and bolts, the meat as Chip said, of the environmental review.

She is going to be talking about what review we did, how we went about doing it, and what kinds of results came out of that review. Then I'm going to come back up and talk about where we are in the review process, in the review schedule, talk to you about how you

can make comments, and how you can get in touch with us, and that is kind of what we are going to run through tonight.

Next slide, please. The H.B. Robinson Plant was originally licensed for 40 years of operation under the Atomic Energy Act of 1954, and the NRC Regulations. The regulations also allow a nuclear power plant to apply for an extension, or renewal of their license, and that is why we are here today, because Carolina Power & Light has applied for a 20 year renewal for the H.B. Robinson Plant.

Their current license would expire in 2010. And they have, as I said, they have made an application for an additional 20 years, and that is the process we are in, that review is under way, the safety review is underway, the environmental review is underway, their application, which we received in June of 2002, and that is the real purpose that we are here tonight, mainly, is the environmental part of the situation. We will be concentrating on that.

Some of you, or many of you, may have been here back in September of 2002, when we held the scoping meetings, at the beginning of this review process. And if you were you will remember that at that time we asked you, as people who live in this area, and are familiar with the plant and the environs, we asked you to be sort of our environmental experts, and to give us input about issues that we need to be looking at, and any information that we need to include in our review process.

And, in fact, you folks did highlight a couple of the environmental issues that we needed to pay particular attention to, as part of our review. So that was a very useful meeting for us.

Tonight we will be sharing with you the results of what we got in our draft document, and you can -- we are looking for you to be our most informed critics, and look at that document and let us know if there is something that you think needs to be changed, or fixed, or whatever.

With that I think we are ready to get started. Chip, S.K.?

FACILITATOR CAMERON: Thank you, Rich. And S.K. Mitra is going to tell us about the license renewal process, generally now. But before S.K. gets started I made a significant omission when I was introducing people, and telling you about the agenda.

And since Rich also did it, I think that Bob Palla is probably feeling like Rodney Dangerfield, over here. But a significant part, an important part of the environmental impact statement is NRC's analysis of severe accident mitigation alternatives.

And Bob Palla, from the NRC Staff, is right here, and he is a probabilistic risk expert. He is in the probabilistic safety branch, again, within the office of Nuclear Reactor Regulation.

But Bob and his colleagues help the license renewal people out by looking at severe accident mitigation for any license renewal request that we review.

So he is going to be talking to you about that analysis after Mary Ann is done talking about the other findings in the draft environmental impact statement.

And Bob has a bachelor's of science, and a master's in mechanical engineering from the university of Maryland. And with that, S.K., let's go to you for the overview.

MR. MITRA: Thank you, Chip, good evening. My name is S.K. Mitra, and I am the project manager for the review of the H.B. Robinson Steam Electric Plant, Unit 2, license renewal application.

Before discussing the license renewal process, and the Staff's safety review, I would like to talk about Nuclear Regulatory Commission and its role in licensing, and regulating the nuclear power plants.

The Atomic Energy Act of 1954 authorizes the NRC to regulate the civilian use of nuclear material. The mission is three-fold, to ensure adequate protection of public health and safety, to protect the environment, and to provide for common defense and security.

The NRC consists of five commissioners, one of whom is the NRC's chairman, and the NRC Staff. The regulations, enforced by NRC, are issued under Title 10 of Code of Federal Regulations, commonly called 10 CFR.

The Atomic Energy Act provided for a 40 year license term for power reactors, but also allows renewal of licenses. The 40 year term is based primarily on economic and/or antitrust considerations, other than safety limitations.

Major components were initially expected to last for 40 years. However, operating experience has demonstrated that some major components, such as steam generators, will not last that long.

For that reason a number of utilities have replaced major components, since components and structures can be replaced, or reconditioned, plant life is really determined, primarily, by economic factors.

License renewal applications are submitted years in advance for several reasons. If a utility decides to replace a nuclear power plant it can take up to ten years to plan and construct new generating capacity to replace that nuclear power plant.

In addition to the decision to replace, or recondition, major components can involve significant capital investment. As such, this decision involves financial planning many years in advance of the extended period of operation.

The Carolina Power & Light Company has applied for license renewal under 10 CFR Part 54, and requests authority to operate H.B. Robinson Unit 2 for up to an additional 20 years.

The current operating license of H.B. Robinson Unit 2 expires July 31st, 2010. Now, I would like to talk about license renewal, which is governed by the requirement of 10 CFR Part 54, the license renewal rule.

This part of the Code of Federal Regulations defines the regulatory process by which a nuclear utility, such as Carolina Power & Light, applies for license renewal.

The license renewal rule incorporates 10 CFR Part 51 by reference. This part provides for the preparation of the environmental impact statement.

The license renewal process defined in Part 54 is very similar to the original licensing process in that it involves safety review, and environmental impact evaluation, plant inspections, and review by the Advisory Committee on Reactor Safeguards, known as ACRS.

The ACRS is a group of scientists, and nuclear industry experts, who serve as a consulting body to the Commission. The ACRS performs an independent review of the license renewal application, and the Staff's safety evaluation, and reports its findings and recommendations directly to the Commission.

This slide illustrates two parallel processes. You will see one at the top of the slide, and the other at the bottom of the slide. The two parallel processes are the safety review process and the environmental review process.

These processes are used by NRC Staff to evaluate two separate aspects of the license renewal application. The safety review involves the Staff's review of technical information in the application of renewal to verify, with reasonable assurance, that the plant can continue to operate safely during extended period of operation.

The Staff assess how the applicant proposes to monitor and manage the aging of certain components that are within the scope of license renewal.

This review is documented in a safety evaluation report, which is provided to the ACRS. The ACRS reviews the safety evaluation report then holds public meetings, and prepares a report to the Commission documenting its recommendations.

The safety review process also involves two or three inspections, which are documented in NRC inspection reports. In its decision to renew the operating license the NRC considers the safety

evaluation report, the ACRS report, the NRC regional administrator's recommendation, and the inspection reports.

At the bottom of the slide is the other parallel process, the environmental review, which involves scoping activities, preparation of a draft supplement to the Generic Environmental Impact Statement, solicitation of public comments on the draft supplement, which we will be doing now, and then the issuance of final supplement to the Generic Environmental Impact Statement.

This document also factors into the agency's decision on the application. In the safety evaluation report the Staff's document is the assessment of the effectiveness of the application's existing, or proposed, inspection and maintenance activities to manage aging effects applicable to passive, long-lived structures and components.

Part 54 requires the application to reevaluate those design analyses that assume 40 years of plant operations. The reevaluation extends the assumed operating period of 60 years. These requirements in the evaluation are called time limited aging analyses.

Current regulations are adequate for addressing active components such as pumps and valves, which are continually challenged to review failures and degradation, such that corrective actions can be taken.

Current regulations also exist to address other aspects of the original license, such as security and emergency planning. These current regulations will also apply during the extended period of operation.

In August 2002 the NRC issued a Federal Register Notice to announce its acceptance of Carolina Power & Light Company's application for renewal of the operating license for H.B. Robinson. The notice also announced the opportunity for public participation in the process. No petitions to intervene were received.

This concludes my summary of the license renewal process, and the Staff's safety review.

Any questions?

FACILITATOR CAMERON: Thank you, very much, S.K. Does anybody have a question for S.K. about the overall process, particularly the safety evaluation that he is in charge of?

(No response.)

FACILITATOR CAMERON: Okay, great. Thank you, S.K., and we are going to go to Rich Emch, again, for the environmental review.

And I might note that we are transcribing the meeting. Ed Johns is our stenographer, and there will be a transcript publicly available, of the meeting tonight. Rich?

MR. EMCH: Thank you, Chip. Now we are going to start to talk about what we are really here for tonight, which is environmental impact.

The National Environmental Policy Act of 1969, is generally regarded as one of the most significant of environmental legislation, pieces of legislation in the United States.

And, basically, it lays requirements on federal agencies to use a systematic approach to consider environmental impacts. It requires federal agencies to prepare an environmental impact statement to address any major federal action that might have the potential to impact the quality of the human environment.

The regulation, in addition to the systematic approach, it says that we need to examine impacts, we have to look at possible ways to mitigate impacts, if those impacts are anything but small. It talks about how we need to evaluate alternatives to the proposed action, such as, in this case it is a nuclear power plant, maybe an alternative would be a coal power plant, or something like that.

We need, it is a disclosure, it says we have to disclose information. So basically what this is all about is we are finding out whatever information we can, and we disclose it. We do that in our environmental impact statement, we do it in meetings such as this.

And the last thing it does is it says that we need to get the public to participate in the process. Again, that is what we are doing here. We did it in the scoping meeting back in September, and now we are further involving you folks in our process today by talking to you, discussing with you what we found in our review, asking you for your comments.

From the environmental impact review the decision that we have to reach, if you will, is in this statement up here. This is the legal version, if you will. It says we are trying to determine whether or not the adverse environmental impacts of license renewal for H.B.

Robinson unit 2 are so great that preserving the option of license renewal, for energy planning decision makers, would be unreasonable.

I always have to turn and read that statement, because I have a hard time remembering it, because I'm a health physicist, and not a lawyer. My version of that statement says, is the environmental impact of operating this plant, for an additional 20 years, okay, is the environmental impact okay? And that is what we are going to be talking about tonight.

Next slide, please. What we talk about, it preserves the option. In other words, when the NRC is finished with its review, both the environmental review, the safety review, the inspections, all of that sort of stuff that S.K. was talking about earlier, a decision will be made about whether or not to issue a new license for this plant.

But the real decision process, basically, all it does is maintain the option for this plant to operate for that additional 20 years. The real decision process is one that the utility will make, as a business decision. It is one that they will make in conjunction, or in consultation with the state regulators, and it will have, probably, a lot to do with the economy, the economic conditions, the need for power in the area, and those sorts of issues.

So, basically, what we are doing with this decision is we are just preserving the option for them to operate for an additional 20 years.

Now let's talk about the environmental review process. This slide is a sort of a more detailed version of the bottom of the slide that S.K. showed you.

The application was actually submitted in June of 2002. In August we put out a notice, in the Federal Register, what we call a Notice of Intent, that says we are going to be doing an environmental review, we are going to be doing scoping, holding scoping meetings. That notice was in August of 2002.

In September we came here, we met with you folks, here in this same room in September, and held the scoping meetings, and had participation by a number of people, and a number of issues were highlighted for us in that meeting.

Also, during that same week, we conducted a site audit. The members of the Nuclear Regulatory Commission, and various experts, technical experts from three national laboratories were here.

We toured the site, and the environs, and the plant. We reviewed documentation, we spoke with experts from the licensee, we spoke with public officials, state and local officials. We talked to local public service organizations, just gathering whatever information we could in the various areas that are important for the review.

And then, of course, we held the public scoping meeting that week. In October of 2002, we published the request for additional information, to the licensee. All those questions were related to the SAMA review, that is the severe accident mitigation alternatives review.

We published our draft environmental statement in May. There are copies available outside the door. It is a draft supplement, which means that there is going to be a final, there is more to be done. There are comments from you folks to be considered, to be included.

And we refer to it as a supplement to the GEIS, to the generic environmental impact statement. Several years ago the NRC, in preparation for the various license renewal applications decided to look at a wide spectrum of potential environmental impacts, and to assess them, and to the maximum extent possible, try to figure out which ones of those impacts could be dealt with as generic.

In other words, it is the same impact for all 104 plants in the United States, and it is a small impact, or whatever. So in those cases, for a fairly large number of the issues, a generic conclusion was drawn, in this GEIS, that we will rely on, as part of our document.

What we've issued is supplement 13 to the GEIS, and supplement 13 deals specifically with the Robinson site.

After we take the comments that you folks give us, and consider them, and make whatever changes need to be made in the document, we will then issue the final supplement in December of this year.

With that I think we are ready, unless anybody has any questions, I think we are ready for Mary Ann Parkhurst to get into the details of the environmental impact review with you.

FACILITATOR CAMERON: Thank you, Rich. Anybody questions on the environmental review process?

(No response.)

FACILITATOR CAMERON: Mary Ann, why don't you come up and tell us what you and your team have found.

MS. PARKHURST: Thank you, Chip. I'd like to tell you, now, about our information gathering process, the composition of our

review team, the process we use to review the applicant's environmental review report, and the results of our draft SEIS, the supplemental environmental impact statement.

While developing the draft environmental impact statement, we reviewed Carolina Power & Light's environmental report, which was part of their license application.

For their application, they had an environmental report as part of that, and we reviewed that. We visited the plant during the site audit. We talked to federal agencies, like Fish and Wildlife Service, with regard to some of the environmental species, especially the endangered and threatened species, aspects of the overall process.

We talked to state agencies, including state offices that handle water discharge permits, and cultural-historical resources, and local officials, as well.

We also contacted tribal representatives, and local social service agencies. So we talked to many people, and we had public comment, the public scoping meeting, to hear your comments.

For the license renewal review we established a team made up of NRC staff, supplemented by experts on various fields from the National Laboratories.

This slide gives you an idea of the types of expertise we needed for this project, and we specifically used those from environmental science, those experts in land use, aquatic and terrestrial ecology, radiation protection, hydrology and water quality, socioeconomics, and historic and cultural resources.

Next slide, please. Our analytical approach to the license renewal process is based in the guidance in the generic environmental impact statement that Rich just mentioned. We call it the GEIS, just because it is a mouthful to say it over and over, otherwise.

This document identifies 92, could we have the next one, this identifies 92 issues to be evaluated for the license renewal. Of these issues 69 are considered generic, or what we call category 1 issues.

So here we have the GEIS, and now we are going to talk about the category 1 issues, and this portion of this draft. The category 1 issues are those issues that where the impacts are essentially the same for all plants, or for all plants with a certain type of design, for example, those with cooling towers would have similar issues.

For the other 23 issues, referred as category 2 issues, the NRC found that the impacts were not the same at all sites and these, therefore, required a site-specific review.

Those are the category 2 issues here, and we will talk about those here in a second. Category 1 generic issues that are applicable to Robinson were addressed. We looked at them in terms of is there any new and significant information that pertains to these issues.

And so, for example, we looked at the many issues that fall into the category 1 heading, looked at is there any new information, and is that information, if there is any that exists, significant?

If we found anything that was new and significant, then we went on to perform a site-specific analysis. If not we went on to -- if there was no specific new and significant information, we went on to

adopt the GEIS conclusion, so that we didn't additionally consider the site-specific information, like starting from scratch.

For the category 2 options we have to actually do a site-specific analysis for the many different impacts, different types of impacts that we look at in the environmental review process.

Finally, during the scoping period, the public then was invited to help us with this track, where we were looking for, is there any information out there we don't have, that you may have, that we need to analyze and determine whether it is significant or not.

So we went through this process looking for new issues, identifying whether any of them were significant, and if there was no significant information that came out of there, then we do no further analysis on that particular issue.

Next one, please. For each issue, identified in the GEIS, an impact level is assigned. This is described in chapter 1 of our draft SEIS document. These impact levels are consistent with the Council of Environmental Quality Guidance for NEPA analysis.

To be categorized as a small impact the effect would not be detectable, or would be too small, to destabilize or noticeably alter any important attribute of the resource.

For example, the plant may cause the loss of adult or juvenile fish at the water intake structures. If the loss of fish is so small that it can't be detected in relation to the total population in the whole lake, the impact would be considered a small one.

To be categorized as moderate the effect must be sufficient to alter noticeably but not destabilize important attributes of the

resource. Using the fish example, again, if losses at the intake cause the population to decline, and then stabilize at a lower level, the impact would be considered moderate.

And, finally, for an impact to be considered large, the effect must be clearly noticeable and sufficient to destabilize important attributes of the resource.

So if losses at the intake cause the fish population to decline, to the point where they cannot sustain their own population, and they essentially disappear from the vicinity, we consider that a large impact.

Next one, please. Regarding the organization of the draft SEIS, in chapter 2 we are looking at some general attributes about the nuclear plant, and the environment around the plant.

In chapter 3 we briefly discuss that the licensee has not identified any plant refurbishment activities that would be necessary for extended operations.

In chapter 4 we looked at the potential environmental impacts for an additional 20 years of operation at the H.B. Robinson Nuclear Plant, and the team evaluated the items specifically listed here.

We looked at the cooling system, transmission lines, radiological aspects, socioeconomics, which also includes historic and cultural resources, as well as environmental justice.

We looked at ground water use and quality, and threatened or endangered species. I will take a few minutes now to identify the results of our review. And at the end of my presentation, if you have any questions, please let me know, and I will try to answer

them, or have those members of my team, that are here in the audience, try to answer them for you.

Next one, please. One of the issues we looked at, closely, is the cooling system for the Robinson nuclear plant. This view of H.B. Robinson shows the unit 2 here on the left, and it shows the coal plant on the right, that is unit 1, Robinson, of course, the water body just above it.

Lake Robinson was formed by impounding Black Creek, in 1958, to cool the unit 1 coal plant. The lake was constructed with additional capacity for future power generation needs. And since 1970s it has been the cooling source for the Robinson nuclear plant.

Water from both units is discharged through a four mile cooling canal, and that cooling canal runs just this side of the lake shore. And it goes out four miles, and then enters the lake.

And in addition to functioning as a cooling pond, which this lake really was intended for, initially, this lake supports recreational use, and modest fishing.

During our site visit, last September, and during our review of the information we obtained, we specifically looked at both the category 2, the site-specific issues, as well as the category 1 generic issues, to get a better feel for the environmental aspects of this plant.

We listened to the scoping meeting comments, relating to the cooling system, and further evaluated some concerns regarding the temperature of the water in the warm season, in Lake Robinson.

The water quality of the water entering the lake from the cooling canal is regulated by the South Carolina Department of Health

and Environmental Control, through the national pollution discharge elimination system, which is otherwise known as NPDES system.

Thermal limits are regulated through this permit, and the plant discharge is operated within these limits. We did not identify any new and significant information for any of the category 1 issues, during scoping process, by the applicant or through our review process.

Next one, please. The radiological impact is a category 1 issue, a generic issue. But because it is often a concern to the public, I want to take just a minute and discuss how we determine that there is no new and significant information that was related to the radiological impacts for the plant.

We looked at the radiological effluent release and monitoring program during our site visit. We looked at how the gaseous and liquid effluents were treated, and released, as well as how the solid wastes were treated, packaged, and shipped for disposal. This information is found at chapter 2 in the draft SEIS document.

We also looked at how the applicant determines and demonstrates that they are in compliance with the regulations for release of these effluents. And the releases from the plants, and the resulting off-site potential doses are not expected to increase on a year to year basis during the 20 year renewal term. Therefore no new and significant information was identified during the Staff's review, or in the scoping process, or the evaluation of other available information.

Next one, please. The last issue I would like to discuss, of those evaluated in chapter 4, is that of threatened or endangered species. A description of the terrestrial and aquatic ecology area, and

the potential for endangered and threatened species in a site is given in chapter 2.

There are no Federally listed aquatic species that currently occur at the Robinson site, or along the transmission rights of way. The only Federally, or state listed, threatened and endangered aquatic species with a potential to inhabit waters near Robinson, is the Carolina heelsplitter, a mussel, which is historically known in the PeeDee River system.

According to intensive Fish and Wildlife surveys, the population nearest the plant is found at the Lynches river, along the western boundary of Chesterfield county.

Short-nosed sturgeon are listed as endangered by the Fish and Wildlife Service, as well, and the Atlantic sturgeon is listed as a candidate species for Federal listing in South Carolina. However, neither sturgeon species is known to occur in Black Creek.

Bald eagles have been sighted near the Robinson site, or on the transmission line rights of way. Other Federally listed terrestrial species with potential habitat at the site included the red-cockaded woodpecker, and they have a picture of that up here, and Canby's dropwort.

None of these species is known to occur at the Robinson site, or along the associated transmission rights of way.

Next one, please. For all of these issues, that the team reviewed, we judged that the license renewal impacts are small. This is both for the category 1 and category 2 issues, and determined there was

no new and significant information identified during the scoping, in which the public participated, by the licensee, or by the Staff.

Next one. And we also reviewed two other environmental impacts. All issues for the uranium fuel cycle, and solid waste management, as well as decommissioning, are considered category 1 issues and are discussed in chapter 6 and 7, respectively. No new and significant information was identified related to these issues.

Next one, please. As an important part of the EIS process we evaluated the potential environmental impacts associated with Robinson, if it were to discontinue operation after its current license period. These, and other alternatives, are discussed in our chapter 8.

We looked at the no-action alternative. This is a scenario where the Robinson operating license is not renewed, and when the plant ceases its operation, Carolina Power & Light would decommission the facility.

We also looked at new power generation options, including coal fired plants, natural gas fired plants, coal fired, and new nuclear plants, and power through purchase power options.

We also evaluated alternative technologies such as wind, solar, hydropower, fuel cells, geothermal, wood waste, municipal solid waste, and other biomass derived fuels.

We looked at delayed retirement, utility-sponsored conservation, and then we looked at a combination of alternatives. For each alternative we evaluated whether the technology could replace the baseload capacity provided by Robinson, and whether it would be a feasible alternative to renewal.

If it appeared to have the same potential, we looked at the same types of environmental issues, as I've just described for Robinson, including land use, ecology, socioeconomics that we reviewed for the license renewal term.

Next one, please. What we found, in our preliminary conclusions of the alternatives, that are considered feasible, is that the alternatives, including the no-action alternative, may have environmental effects in at least some impact areas that reach moderate, or large significance. For comparison the license renewal impacts were of small significance. Chip?

FACILITATOR CAMERON: Any questions for Mary Ann on the environmental review?

(No response.)

FACILITATOR CAMERON: Thank you very much, Mary Ann. And in the draft environmental impact statement you are going to find an analysis of severe accident mitigation alternatives, and Bob Palla is here to tell us about that. Bob?

MR. PALLA: Hello, my name is Bob Palla, and I'm with the probabilistic safety assessment branch of NRC. I'm going to be discussing the environmental impacts of postulated accidents.

Section 5 of the generic environmental impact statement is entitled: Environmental Impacts of Postulated Accidents. The GEIS evaluates two classes of accidents, design basis accidents, and severe accidents.

Design basis accidents are those accidents that both the licensee and the NRC Staff evaluate to ensure that the plant can safely

respond to a broad spectrum of postulated accidents without risk to the public.

The environmental aspects of design basis accidents are evaluated during the initial licensing process and the ability of the plant to withstand these accidents has to be demonstrated before the plant is granted a license.

Most importantly a licensee is required to maintain an acceptable design and performance capability throughout the life of the plant, including any extended life operation.

Since the licensee has to demonstrate acceptable performance throughout the life, the Commission has determined that the environmental impact of design basis accidents are of small significance.

Neither the licensee, nor the NRC, is aware of any new and significant information on the capability of the Robinson plant to withstand design basis accidents therefore the Staff concludes that there are no environmental impacts related to design basis accidents, beyond those discussed in the generic environmental impact statement.

Now, with regard to severe accidents, the second category of accidents, these accidents are, by definition, more severe than design basis accidents, because they could result in substantial damage to the reactor core.

The Commission found, in the generic environmental impact statement, that the risk of a severe accident, atmospheric releases falling onto open bodies of water, releases to groundwater, and societal impacts, are small for all plants.

Nevertheless the Commission determined that alternatives to mitigate severe accidents must be considered for all plants that have not done so. We refer to these alternatives as severe accident mitigation alternatives, or SAMA, for short.

The SAMA evaluation is a site-specific assessment, and it is a category 2 issue, as explained earlier by Mary Ann. The SAMA review for Robinson is described in section 5.2 of the GEIS supplement.

And let me just give some background on what we are doing in the SAMA review. The purpose of performing the SAMA evaluation is to ensure that the plant changes, with the potential for improving severe accident performance, are identified and evaluated.

The scope of potential improvements that are considered include hardware modifications, procedure changes, training program improvements, as well as other changes, basically a full spectrum of potential changes are considered.

The scope includes SAMAs that would prevent core damage, as well as SAMAs that improve containment performance, given that core damage were to occur.

Now, the evaluation process consists of four major steps. The first step is to characterize the overall plant risk, and the leading contributors to risk.

This, typically, involves the extensive use of the plant-specific probabilistic risk assessment study. The probabilistic risk assessment study is also known as the PRA. This PRA is a study that identifies the different combinations of system failures and human errors

that are required in order for an accident to progress to either core damage, or to containment failure.

The second step in the evaluation is to identify potential improvements that could further reduce risk. The information from the PRAs, such as dominant accident sequences, is used to help identify plant improvements that would have the greatest impact in reducing risk.

Improvements identified in other NRC studies, as well as SAMA analyses performed for other plants, are also considered in this step.

The third step in the evaluation is to quantify the risk reduction potential in the implementation costs for each improvement. The risk reduction and implementation costs for each SAMA are typically estimated using a bounding approach.

The risk reduction is generally overestimated by assuming that the plant improvement is completely effective in eliminating the accident sequences it is intended to address.

And the implementation costs are generally underestimated by neglecting certain cost factors, such as maintenance costs, and surveillance costs, associated with the improvement.

The risk reduction and cost estimates are used in the final step to determine whether implementation of any of the improvements can be justified.

In determining whether an improvement is justified the NRC staff looks at three factors. The first is whether the improvement is cost beneficial. In other words, is the estimated benefit greater than the estimated implementation cost of the SAMA.

The second factor is whether the improvement provides a significant reduction in total risk. For example, does it eliminate a sequence, or a containment failure mode, that contributes a large fraction of the plant risk.

And the third factor is whether the risk reduction is associated with aging effects during a period of extended operation. In which case, if it was, we would be looking at implementation of the SAMA as part of the license renewal process.

The preliminary results of the Robinson SAMA evaluation are summarized on this slide. Two hundred and sixty six candidate improvements were identified for Robinson, based on review of the plant-specific PRA, relevant industry and NRC studies on severe accidents, and SAMA analysis performed for other plants.

Two hundred and eighteen of these SAMAs were eliminated during an initial qualitative screening, leaving 48 SAMAs for further evaluation. Factors considered during this initial screening included whether the SAMA has already been implemented at Robinson, is not applicable to Robinson due to design differences, or addresses sequences, or failure modes, that are not risk significant at Robinson.

In the next phase of the evaluation a preliminary cost estimate was prepared for each of the 48 remaining SAMAs. The estimated costs were compared with the maximum attainable benefit for the plant.

This maximum attainable benefit is a calculated dollar amount associated with completely eliminating severe accidents at

Robinson. All but 10 of the SAMAs were eliminated in this step because of their estimated costs exceeding the maximum attainable benefit.

A more detailed assessment of the conceptual design and cost estimate was developed for each of the remaining 10 SAMAs. None of these 10 SAMAs were found to be cost beneficial when evaluated in accordance with NRC guidance for performing regulatory analysis.

Now, although CP&L did not identify any cost beneficial, the NRC staff performed an independent review of the dominating contributors to risk, and identified two additional improvements that appeared to be cost beneficial.

The first cost beneficial SAMA involves modifying two valves in the residual heat removal system to increase their seismic capacity. Failure of these valves in a large seismic event could lead to core damage, and containment bypass.

This SAMA would increase the seismic capacity of the valves, and reduce their potential for failure in a large seismic event.

The second cost beneficial SAMA involves installing a radiant heat shield along the electrical conduit from the dedicated shutdown diesel. A transformer fire in the switchyard could damage this electrical conduit and lead to a station blackout.

This SAMA would protect the electrical cable and prevent the loss of electric power from the shutdown diesel. Neither of these SAMAs relate to adequately managing the effect of aging during the period of extended operation and, therefore, need not be implemented as part of license renewal pursuant to 10 CFR Part 54.

However, CP&L is further evaluating potential implementation of these improvements.

To summarize, the NRC staff's preliminary conclusion is that additional plant improvements to further mitigate severe accidents are not required at Robinson as part of license renewal.

Potential improvements to RHR valves and electrical conduit heat shielding are being further evaluated as part of current operating license issues.

And this concludes my presentation, and I could take any questions, if you have them.

FACILITATOR CAMERON: Thank you, Bob. Questions on the severe accident mitigation analysis, from anyone?

(No response.)

FACILITATOR CAMERON: Okay. Thank you, Bob. And, Rich, can you do a summary for us?

MR. EMCH: This brings us to the preliminary conclusions of our review. The first one, as Mary Ann already told you, that the impacts of all the various areas of the environmental review, they were found all to be small for the Robinson review.

For the alternatives the environmental impacts range from small to large, and this brings us back to our favorite statement from earlier in the presentation, this is the conclusion, the recommendation that we need to be able to reach.

And that is, as you can see, is that the adverse environmental impacts of license renewal for H.B. Robinson unit 2 are

not so great that preserving the option of license renewal, for energy planning decision makers would be unreasonable.

In my parlance the environmental impacts are okay for an additional 20 years of operation. Let's recap the process a little bit. This is where we are at.

We've issued the draft environmental statement, as we talked about, in May. We are in the comment period now, we will be accepting comments through the end of July, July 30th. Any comments that we get during that period of time we will consider, and evaluate, and make any changes that we deem necessary in the environmental statement.

And then we expect to issue the final environmental statement in December of this year. Points of contact, how can you get in touch with us, how can you get the copies, or where can you find the environmental statement so that you can review it?

First point of contact is myself, it is the phone number up there. If you are having trouble finding the document you can call me, I will make arrangements for you to get it, we may send it to you in the mail, we may help you find it on the internet.

The documents are also located at the Hartsville Memorial Library, which is a few blocks from here. If you are having trouble finding it ask the manager of the facility, Rose Roseveare.

Also it can be found on the NRC's website, there in red, and actually the better way to find it is the one in white down there, it is a long URL, but it will take you directly to the draft statement, I've checked it a few times myself.

I want you to go look, because we want you to provide us comments. There are several ways to give us those comments. One of them is by mail to this address, another one is in person, if you happen to be in the Washington, D.C. area you can stop by our offices in Rockville, Maryland, and give them to us.

Probably the ones that make the most sense for people who live here in Hartsville are to email it to us at robinsoneis@nrc.gov, or when you go to look at the draft statement online, at that previous URL there is an online comment form that is included with it, and you can do it through that.

So those are the ways you can provide us comments. We hope you will all review the document, and give us comments. As I said, you folks who live here near the site provide us the most informed critics that we can find. And so that is what we are looking for.

I want to thank everybody for coming out tonight and participating with us in this process. And I guess with that, unless there are some questions, I will close.

FACILITATOR CAMERON: Thanks, Rich. Let's just make sure that we don't have any final comments, questions, or recommendations on the draft environmental impact statement.

Does anybody have anything that they would like to add tonight, before we adjourn?

(No response.)

FACILITATOR CAMERON: Well, let me add my thank you for being here tonight, and you have the contact information, and we hope you have a good evening. Thank you.

(Whereupon, at 8:00 p.m. the above-entitled matter was concluded.)