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NUCLEAR REGULATORY COMMISSION

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License Renewal Draft EIS - Public Meeting
Afternoon Session

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Attachment 1

U.S. NUCLEAR REGULATORY COMMISSION

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MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

LICENSE RENEWAL

DRAFT ENVIRONMENTAL IMPACT STATEMENT

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PUBLIC MEETING

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WEDNESDAY, JUNE 12, 2002

The meeting was held at 1:30 p.m. at the Central Piedmont Community College, North Campus, 11930 Verhoeff Dr., Huntersville, North Carolina, Chip Cameron, Facilitator, presiding.

PRESENT:

CHIP CAMERON, FACILITATOR

JOHN TAPPERT

RANI FRANOVICH

JIM WILSON

BECKY HARTY

BOB PALLA

BARRY ZALCMAN

ALSO PRESENT:

LOU ZELLER

ROBERT MAHOOD

BOB ANDERSON

JACK PEEL

A-G-E-N-D-A

	Page
Welcome - Facilitator Cameron	3
John Tappert	8
Overview of license renewal process	
Rani Franovich	10
Overview of Environmental review process	
Jim Wilson	15
Results of Environmental Review	
Becky Harty	20
Bob Palla	34
Information on Comment Process	
Jim Wilson	43
Public comments	
Jack Peel	47
Lou Zeller	48
Robert Mahood	51

P-R-O-C-E-E-D-I-N-G-S (1:30 p.m.)

FACILITATOR CAMERON: Good afternoon, everyone, and welcome to our meeting today. My name is Chip Cameron, I'm the Special Counsel for Public Liaison at the Nuclear Regulatory Commission, and I'm pleased to serve as your facilitator for today's meeting, and in that role I will try to help you, all of you, have a productive meeting this afternoon.

It is nice to be back with you, we were here last September to talk about the scoping issues for the preparation of the environmental impact statement on Duke Energy Corporation's application to renew the licenses for Units 1 and 2 at the McGuire Nuclear Station.

And we are back today to discuss this document. This is the draft environmental impact statement on the license renewal application for the McGuire stations.

And our objectives today are to try to clearly inform you of what the preliminary findings are in the draft environmental impact statement. And to tell you a little bit about license renewal, the license renewal process at the NRC, in general.

And, most importantly, we are here to listen to your comments on issues raised in the draft environmental impact statement, and to use those comments to help us to finalize the draft environmental impact statement.

We are also asking for written comments on this draft environmental impact statement, but we are here today to talk to you in person about those particular issues.

And you may hear things today that will inform you in terms

of submitting further written comments, or they may stimulate you to send in written comments to us.

But I want to emphasize that any comments that you make today will carry the same weight as anything that is submitted to us in writing on this draft environmental impact statement.

Basically our format today is we are going to have two segments to the meeting. The first segment is to provide you with some information, give you some context on the draft environmental impact statement, and how it fits in to the NRC's license renewal application review.

So we are going to do some brief NRC presentations and I will introduce those NRC, and our expert consultant, staff. In a few minutes we are going to do those presentations.

After each one we will go out to you for questions that you might have, and then the second segment of the meeting is to hear more formally from you, from any of you who would like to make a more formal statement to us today.

And all of those comments, as I said, become part of our decision making process, and decision making record.

In terms of ground rules, if you have a question just signal me and I will bring you this talking stick. And if you could give us your name and affiliation, if appropriate, we will get you on the record.

We are keeping a transcript of the proceedings over here, and that will be available on the NRC website, and also I think that we are going to be able to provide a hard copy to anybody who needs it.

In terms of the formal comments, please sign up front, if you

haven't done so already. And that is just to give us an idea of how many people we need to plan for who are going to speak today.

If you are seized by the urge to join us for formal comment, just let me know. I would just ask that only one person at a time speak today, so that we can give our full attention to that particular person, and also so that we can get a clean transcript with only one person talking.

I would ask you to try to be concise in your questions, and comments, during our interactive portion, because we would like to make sure that we give everyone a chance who wants to speak today that opportunity.

I know that with one these complex and sometimes controversial issues it is hard to be brief. But I would just ask you to try to do that. When we get to the formal comment portion of the meeting, I'm going to set a five-minute guideline for comments, and we have some flexibility there, of course. But I would like to see if we could hold to that. If you do have a prepared statement we can also attach that to the transcript today.

And depending on how many questions we get during our, what I call, the interactive portion of the meeting, where we are talking to you, instead of just listening to formal comments, we may have to end that at some point, even though there are further questions, so that we can give people who want to make formal comments a chance to do so.

And I'm going to get to some introductions here of the people who are going to speak to you today. But I just wanted to thank you for being here. The NRC has an important decision to make, not only on the license renewal application, but also on the final environmental impact statement, and I want to thank you for being here to help us with that.

This is just one meeting. I would encourage you to talk to the NRC staff. We also have expert consultants with us, who are helping us to prepare the environmental impact statement. Talk to them, get to know them, get their phone number, their e-mail addresses.

And if you have any questions or concerns any time during this process, please contact them.

In terms of our agenda, I'm just going to have John Tappert, in about a minute, come up and just give you a welcome. And I'm asking him to do that because he is the section leader of the environmental group, where all of the license renewal applications are evaluated at the NRC. And that is in our Office of Nuclear Reactor Regulation.

And I want to give you some background on these people, so that you know what their experience is, and I think that you will be interested in that.

He has been with the NRC for 11 years, he has a Masters in environmental engineering, and he actually was a resident inspector at nuclear power plants in NRC's Region I.

After we hear from John we are going to go over to Rani Franovich, who is right here. And Rani is going to give us an overview of the license renewal process, generally, and we will go on to you for questions, if you have questions about that process.

Rani is the project manager for the safety review on the McGuire license renewal application. And you are going to hear that there is a safety part of the review that the NRC does on the license renewal application, and then there is an environmental part, which is why we are

specifically here today, to hear your comments on the draft environmental impact statement.

But Rani is in the License Renewal Branch, again, in our Office of Nuclear Reactor Regulation, and she has been with the NRC, also, for 11 years. She happened to be the resident inspector at the Catawba Nuclear station down here, in the neighboring state. And she has a Masters in industrial and systems engineering from Virginia Tech.

After Rani, and questions, we are going to go to Mr. James Wilson, who is right here. And Jim is the project manager for the environmental review on the McGuire license renewal application. And he is going to talk about the environmental review process for you.

Jim has been with the NRC for 27 years, and he has a Masters in zoology from Virginia Tech, also.

Then we are going to get to the preliminary findings in the draft environmental impact statement, and we are going to ask Becky Harty, who is right over here, to tell us about that.

And Becky is the project team leader for the preparation of the draft environmental impact statement. And she is with the Pacific Northwest National Lab. That laboratory, and other laboratories, are helping the NRC to prepare the environmental impact statement.

And you will hear a little bit about all of the areas of expertise that are employed in the preparation of this impact statement. She is a senior research scientist at the lab. She has 20 years experience in environmental and health related studies, and she has a Masters in fisheries and oceanographic sciences from the University of Washington, and Becky has

been involved in the environmental evaluation of several nuclear power plants.

Part of the environmental impact statement is to take a look at potential accidents, and how those accidents can be prevented, or mitigated. And we have one of our experts, from the NRC, with us today, Bob Palla, who is right here.

He is a senior reactor engineer in something called the Probabilistic Safety Assessment Branch. Again, he is in the Office of Nuclear Reactor Regulation. And Bob is going to talk to us about that.

He has been with the NRC for 21 years, looking at severe accidents at various types of plants, and he has a Masters in mechanical engineering from the University of Maryland.

After Bob is done with any question-and-answer, we will bring Jim Wilson back up to just make sure that you know when the comment period expires for written comment, and how to file those comments, and to talk about overall conclusions.

And I'm sorry if I took a long time with this, but we are ready to go to John Tappert now. John?

MR. TAPPERT: Thank you, Chip. As Chip said, my name is John Tappert, I'm the chief in the environmental section in the Office of Nuclear Reactor Regulation. I, too, would like to welcome you to this meeting, and thank you for participating in our process.

As Chip mentioned, there are several things we would like to cover in today's meeting. First we would like to provide a brief overview of the entire license renewal process.

This includes both the safety review, as well as the

environmental review, which is the principal focus of today's meeting. Second we would like to provide you the preliminary results of our environmental review, which assesses the environmental impacts associated with extending the McGuire nuclear power plant operating license for an additional 20 years.

And, finally, we would like to provide you with some additional information about how you can participate in this process by submitting written comments on the draft environmental impact statement.

At the conclusion of the Staff's presentation we would be happy to receive any questions or comments that you may have on that draft environmental impact statement.

But first let me provide some general context for the license renewal process. The Atomic Energy Act gives the NRC the authority to issue operating licenses to commercial nuclear power plants for a period of 40 years.

For McGuire Units 1 and 2, this operating license will expire in 2021 and 2023. Our regulations also make provisions for extending these operating licenses for an additional 20 years, as part of the license renewal process.

Duke Energy has requested license renewal for both nuclear power plants. As part of the NRC review of that license renewal application we conduct an environmental scoping meeting here last September.

At that meeting, we provided information on the license renewal process, and also sought public input on issues that should be addressed in the environmental impact statement.

At that scoping meeting, we indicated we would come back again, as we are today, to provide you with the preliminary results of that

environmental impact statement.

One of the principal purposes of this meeting is to receive your comments and questions on that draft. And with that I would like to ask Rani Franovich to give a brief overview of the safety review portion of the license renewal process.

MS. FRANOVICH: Good afternoon. As Chip indicated, and John Tappert, I'm Rani Franovich, the project manager for the safety review of the application for license renewal for McGuire Nuclear Station.

And Mr. Tappert stole some of my thunder, so I'm going to reiterate some of the things he just stated. Please bear with us.

Before I talk about the license renewal process, and the staff's safety review, I would like to talk about the Nuclear Regulatory Commission, or the NRC.

The Atomic Energy Act of 1954 authorizes the NRC to regulate the civilian use of nuclear material. The NRC's 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 staff. The regulations enforced by the NRC are issued under Title 10 of the Code of Federal Regulations, commonly called 10 CFR in the nuclear industry.

The Atomic Energy Act provides for a 40-year license term for power reactors, but it also allows for renewal. That 40-year term is based primarily on economic and anti-trust considerations, rather than safety limitations.

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

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

Applications for license renewal 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, decisions to replace or recondition major components can involve significant capital investment. As such these decisions involve financial planning many years in advance of the extended period of operation.

As Mr. Tappert indicated, Duke Energy Corporation has applied for license renewal under 10 CFR Part 54, and requests authorization to operate McGuire nuclear units for up to an additional 20 years. The current operating licenses for McGuire will expire in 2021 and 2023, respectively.

Now I would like to talk about license renewal, which is governed by the requirements of 10 CFR Part 54, or the License Renewal Rule, which defines the regulatory process by which a nuclear utility, such as Duke Energy Corporation, applies for a renewed operating license.

The License Renewal Rule incorporates 10 CFR part 51 by reference. 10 CFR Part 51 provides for the preparation of an environmental

impact statement, or EIS.

The license renewal process defined in 10 CFR Part 54 is very similar to the original licensing process in that it involves a safety review, an environmental impact evaluation, plant inspections, and review by the Advisory Committee on Reactor Safeguards, or the 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 they report their findings and recommendations directly to the Commission.

The next slide illustrates two parallel processes. You will see one at the top of the slide, the other toward the bottom of the slide.

The two parallel processes are the safety review process and the environmental review process. These processes are used by the Staff to evaluate two separate aspects of the license renewal application.

The safety review involves the Staff's review of the technical information in the application for renewal to verify, with reasonable assurance, that the plant can continue to operate safely during the extended period of operation.

The Staff assesses how the Applicant proposes to monitor or manage aging of certain components that are within the scope of license renewal.

The Staff's review is documented in a safety evaluation report, and the safety evaluation is provided to the ACRS for review, and an ACRS report is prepared to document their review of the Staff's safety

evaluation.

The safety review process also involves two or three inspections which are documented in NRC inspection reports. These inspection reports are considered, with the safety evaluation report, and the ACRS report, in the NRC's decision to renew their operating licenses.

If there is a Petition to Intervene, sufficient standing can be demonstrated, and an aspect within the scope of license renewal has been identified, then hearings may also be involved in the process. These hearings will play an important role in the NRC's decision on the application as well.

At the bottom of the slide is the other parallel process, the environmental review, which involves scoping activities, preparation of the draft supplement to the generic environmental impact statement, solicitation of public comments on the draft supplement, and then the issuance of a final supplement to the generic environmental impact statement. This document also factors into the Agency's decision on that application.

During the safety evaluation, the Staff assesses the effectiveness of the existing or proposed inspection and maintenance activities to manage aging effects applicable to a defined scope of passive structures and components.

Part 54 requires the application to also include evaluation of time-limited aging analyses, which are those design analyses that specifically include assumptions about plant life, usually 40 years.

Current regulations are adequate for addressing active components, such as pumps and valves, which are continually challenged to reveal 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 2001, the NRC issued a Federal Register Notice to announce its acceptance of the Duke Energy application for renewal of the operating licenses for Catawba and McGuire.

This notice also announced the opportunity for public participation in the process. The NRC received two Petitions to Intervene, one from the Nuclear Information and Resource Service, and the other from the Blue Ridge Environmental Defense League.

An Atomic Safety and Licensing Board, or ASLB, was established to preside over the proceedings. In an Order issued on January 24th, 2002, the ASLB granted both petitions for a hearing, and admitted two contentions.

The first contention pertained to the impact of anticipated MOX, or mixed oxide, fuel on aging and environmental issues, and the second pertained to the completeness of the severe accident mitigation alternatives, or SAMA, analysis for station blackout events at ice condenser plants.

A third issue, concerning terrorism was forwarded to the Commission for review. On February 4th, 2002, the Staff appealed to the ASLB ruling and Duke also filed an appeal.

On April 12th, 2002, the Commission issued an order to reverse the ASLB's ruling on the MOX issue. The Commission deferred its decision on the two remaining issues, the station blackout SAMA issue and the terrorism issue.

More recently the Staff received 8 late filed contentions which pertain to the SAMA issue. This concludes my summary of the license renewal process, and the Staff's safety review.

At this time can I answer any questions?

FACILITATOR CAMERON: Yes. Rani has given us an overview on the license renewal process, and specifically on safety review. Do we have any questions for Rani at this point?

(No response.)

FACILITATOR CAMERON: Okay. And if during the rest of the discussions, if questions come up, we can always go back to Rani, also. But thank you very much, Rani.

And now we are going to go to Jim Wilson, who is going to talk to us about the environmental review process. Jim?

MR. WILSON: Thank you, Chip. My name is Jim Wilson, I'm the environmental project manager for the McGuire license renewal project. I'm responsible for coordinating the efforts of the NRC Staff, and our contractors from the National laboratories, to conduct and document the environmental review associated with Duke Energy's application for license renewal at McGuire.

NEPA, the National Environmental Policy Act, was enacted in 1969. It is one of the most significant pieces of environmental legislation that has ever been passed in this country.

It requires all federal agencies to use a systematic approach to consider environmental impacts during certain decision-making proceedings regarding major federal actions.

NEPA requires that we examine the environmental impacts of the proposed action and consider mitigation measures in areas where impacts would be severe.

NEPA requires that we consider alternatives to a proposed action and that we evaluate the impacts of those alternatives.

Finally, NEPA requires that we disclose all this information and invite public participation to evaluate it. The NRC has determined that it will prepare an environmental impact statement associated with the renewal of an operating plant license for an additional 20 years.

Therefore, following the process required by NEPA, we have prepared a draft environmental impact statement that describes the environmental impacts associated with the operation of McGuire Station Units for an additional 20 years.

That environmental impact statement was issued last month, in May, and we are here today to receive public comments on the draft.

This slide describes the objective of our environmental review, simply put, we are trying to determine whether the renewal of the McGuire licenses is acceptable from an environmental standpoint.

This slide shows in a little greater detail the lower line of a previous slide presented by Rani, the environmental review process at McGuire. We received the application in June, issued a Notice of Intent in the Federal Register in August, and invited the public to participate in the scoping process in a couple of meetings in September of last year, here in Huntersville.

We also received public comments through e-mails and letters. Also in September, we went to McGuire with a combined team of NRC

staff and personnel from four of the National Laboratories, with background in the specific technical and scientific disciplines required to perform this environmental review.

We familiarized ourselves with the site, we met the staff from Duke to discuss the information submitted in support of the license renewal application. We reviewed the environmental documentation maintained at the plant, and we examined Duke's evaluation process.

In addition we contacted state, federal, and local officials, as well as local service agencies, to obtain information on the area and on the McGuire plants.

At the close of the scoping comment period, we gathered up and considered all the comments that we had received from the public and from state and federal agencies. Many of these contributed significantly to the document that we are here to discuss today.

In January of this year, we issued a request for additional information to make sure that any information we relied on in our decision-making was on the docket, and to supplement the information not included in the original application.

A month ago, on May 6th, we issued draft Supplement 8 to the generic environmental impact statement for McGuire. This environmental impact statement relies on the original generic environmental impact statement to draw a portion of its conclusions.

The report was issued as a draft, not because it is incomplete, but rather because we are in an intermediate stage in the decision-making process. Right now we are in the middle of a comment period to allow

you, and other members of the public, to look at the draft document and to provide any comments you may have on it.

After we gather these comments, and evaluate them, we may decide to change portions of the environmental impact statement based on the comments. NRC will then issue a final environmental impact statement for license renewal at McGuire.

Are there any questions about what we are doing today, how we worked on the environmental impact statement?

FACILITATOR CAMERON: Anybody have a question for Jim before we go to the discussion of the preliminary findings in the environmental impact statement? Hold on a minute, Jim, I think we have a question.

And just give us your name and affiliation.

MR. ZELLER: My name is Lou Zeller, I'm with the Blue Ridge Environmental Defense League.

I thought of this question, just before you stood up Jim. It actually maybe refers to the previous presentation, but before we got too far along here I wanted to ask about the Commission's decision on April the 12th to change, reverse, or alter the findings of the Atomic Safety Licensing Board.

How often does something like that happen, and where has it happened?

FACILITATOR CAMERON: I'm not sure that either Jim or Rani are prepared to answer that. And we do have a representative here from our Office of the General Counsel, Susan Uttal.

And she may not have those statistics for you, Lou, but let me see if Susan has anything she can offer on that. And if there is further

discussion you need to have, you may need to do it offline.

But, Susan, can you give us some information on Lou's questions?

MS. UTTAL: I don't know the answer to that question.

FACILITATOR CAMERON: The answer to the -- there were two questions, right, Lou?

MR. ZELLER: Yes.

FACILITATOR CAMERON: The second one was how often does it happen. And I take it you are saying that you really don't have any information on that?

MS. UTTAL: I don't have any information on that.

FACILITATOR CAMERON: The first part of that, Lou, was just to make sure that Susan knows what it was, can you just -- you don't have to repeat the whole thing, but just what the question part was.

MR. ZELLER: I'm just curious to find out, the procedure, or the process, or perhaps there is a citation within the rules and regulations which outline how a sitting Atomic Safety Licensing Board, or actually any other board of that nature, would have a process underway as was described here shortly, a while ago.

And the Commission, which set up that panel, to essentially reverse, or alter, or have any saying before the procedure, before the process had been completed.

FACILITATOR CAMERON: I think that that is a fairly simple answer from a procedural point of view, relating to the authority of the Commission to step into a proceeding and rule on something before the whole

thing is over.

Can you say anything about that, Susan? And, again, I don't want to get us down into a big legal discussion, but so that you can do this with Lou afterwards.

But perhaps you could just tell us some of the basics on that?

MS. UTTAL: Well, first of all I'm not sure of the relevance to this particular meeting, to this information. Mr. Zeller's a party in the proceeding, and in the requirements of Part 2 of 10 CFR, there is a specific section that permits interlocutory appeals from decisions allowing the admission of contentions, and that appeal be made to the Commission.

I don't happen to have the section in my mind at this time, but it is provided under the regulations. So I would refer you to Part 2 of the regulations, or perhaps you can ask your counsel about it.

FACILITATOR CAMERON: Okay. We always want to try to provide some information on questions like that. And I think from what Susan said, Lou, it is something called an interlocutory appeal, and there is basis in the Commission's regulations for that, and we can explore that in more detail later on.

But any other questions on either Rani's presentation, or Jim Wilson's, before we go on to the preliminary findings?

(No response.)

FACILITATOR CAMERON: All right. Let's go to Becky Harty, who is the senior research scientist project team leader from Pacific Northwest Labs, to tell us about the preliminary findings. Becky?

MS. HARTY: Thank you. I wanted to tell you a little bit about

the information gathering process, and the composition of the team, and then I'm going to talk a little bit about the analysis process, and kind of step you through the report really quickly.

As Jim mentioned, earlier, to develop the supplemental environmental impact statement, we looked at the license renewal application, and we also did a site audit, and he went into some detail on that, so I'm going to pass over that part.

We talked with federal, state, and local agencies, and we also talked to permitting authorities like the state, where we talked to them about the water discharge permits, and also cultural and historic issues.

And we talked to social service local agencies, and we invited the public, as was mentioned previously, to provide comments, which a number of you did, and we looked at those comments.

For the review, we established a team that was made up of members of the Nuclear Regulatory Commission Staff, and they were supplemented by experts in various fields from National Laboratories, and this slide gives you an idea of the areas that we looked at.

I'm going to step you through the process here. The generic environmental impact statement for license renewal, which is NUREG-1437, identifies 92 environmental issues that are evaluated for license renewal.

Now, of these 92 issues, 69 of the issues are considered generic. And we use the term Category 1, which just means that the impacts are the same for all reactors or for the same type of reactor which had certain type of features, such as plants with cooling towers. So across the nation those issues were generic for that type of plant.

The other 23 issues, which we called Category 2 issues, the NRC found for these issues that the impacts were not the same on all sites, and therefore a site-specific analysis was needed.

Now, only 83 of the 92 issues that were addressed in the GEIS are applicable to McGuire because of the design and the location of the plant. For those generic Category 1 issues that are applicable to McGuire, we needed to asses that impacts, we needed to look and see if there was any new and significant information.

And if there was no new information then we adopted the GEIS conclusion. And if there was new information that we found, then we performed a site-specific analysis on those generic issues.

For the Category 2, or the site-specific issues, that were related to McGuire, we did a site-specific analysis for all those issues. The other thing we looked at was for potential new issues.

We looked at that when we were at the site, we looked at available information, we looked at the comments from the public to see if there was any new information that had not been disclosed in the generic environmental impact statement, and if new issues were found, then we would do a site-specific analysis, otherwise there was no additional analysis.

Now, how the effects were quantified. For each issue that was identified in the GEIS, an impact level was assigned. And this is described in Chapter 1, which is the introduction of the report.

These impact levels are consistent with the Council of Environmental Quality's guidance for NEPA type analysis like this. 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.

I'm going to give you an example. If the plant causes the loss of adult and juvenile fish at the intake structure, if the loss of fish is so small that it cannot be detected in relationship to the total population in the river, or the lake, that the site is on, then the impact is small.

Now, for moderate, if it is going to be categorized as a moderate impact, it would have to show that the effect is sufficient to alter noticeably, but not to destabilize the important attributes of the resource.

I'm using the fish example, again, if the losses at the intake cause the population to decline, and then to stabilize, we would say that the impact was moderate, because it did cause a change, but it stabilized.

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

I'm using the fish example, again. If the losses at the intake caused the fish population to decline to the point where it cannot be stabilized, then it continually declines, then we would say that the impact is large.

Now, in Chapter 2 of the report we discussed the plant and the environment around the plant, and in Chapter 3 we briefly discuss that the licensee had not identified any plant refurbishment activities.

And then in Chapter 4 we looked at the potential environmental impacts for an additional 20 years of operation at the McGuire Nuclear Station. And the issues that the team looked at, in Chapter 4, are the cooling system, transmission line impacts, radiological impacts, socioeconomic, groundwater

use and quality, and impacts on threatened or endangered species.

I will take just a few minutes to identify the highlights of this review. And then if you have any specific questions on things on the document, or other parts of the review that I don't cover in the highlights, feel free to ask.

One of the issues we looked at, closely, and discussed in some depth in Chapter 4, is the cooling system for the McGuire Nuclear Station. And this is an aerial view of the station. You can see the station right here, you can see the Cowan's Ford Dam there.

There is an intake structure, the low level intake structure is just right off the side of the dam. There is an upper intake structure in this area here. This is the discharge canal, a small body of water, this large body is Lake Norman, and the larger body down at the bottom, which looks larger but is actually smaller, is the standby nuclear service water pond.

During our visit last September, and during our review of the information we obtained, we looked at the Category 1 issues, which I talked about earlier, as being the generic issues.

And we did not identify any new or significant information for any of the Category 1 issues, either during the scoping process, or during our review of the information.

The Category 2 issues that are related to the cooling system that the team looked at, in depth, include the entrainment in the impingement in fish and shellfish, heat shock, and the potential for detrimental public health impacts from heat loving microorganisms that might grow in the lake as a result of the thermal discharge.

And in all cases the potential impacts were determined to be small, and no additional mitigation was warranted.

Now, this next slide talks a little bit about radiological impacts. This is a Category 1 issue, it is generic for all the plants. Because it is often a concern to the public, I wanted to take just a few minutes to discuss it, and how we determined that there were no new and significant information related to the radiological impacts.

During the site visit we looked at the effluent release and the monitoring program. We looked at how the gaseous and liquid effluents were treated and released, and we looked at the program for treating, packaging, and shipping solid waste.

This information is in Chapter 2 of the report. We also looked at how the applicant demonstrates and determines that they are in compliance with the regulations for release of radiological effluents.

This slide shows you the near and on-site radiological monitoring locations that the licensee uses. There is a number of other monitoring stations that are beyond the site of the boundary, and beyond this figure. And these are locations where Duke looks at water, milk, fish, food products, and shoreline sediments, and samples those for radiological impact.

The releases from the plant, and the resulting off-site potential doses are not expected, from the analysis, from the information and the resulting analysis that we did, to increase on a year to year basis during the 20 year license renewal term.

We didn't find any new and significant information during our review, the scoping process, or the evaluation of other available information.

The last issue I would like to discuss from those evaluated in Chapter 4 is that of Threatened and Endangered species. A description of the terrestrial and aquatic ecology of the area and the potential of endangered and threatened species at the site is given in Chapter 2, but in Chapter 4 we look specifically at these Threatened and Endangered species.

There are no federally listed aquatic species that occur near the McGuire site. The only federally or state listed threatened and endangered aquatic species with any potential to inhabit the waters near McGuire is the Carolina heelsplitter, which is a mussel.

It is located in Union County, which is southeast of the site, and it has not been found to be present in the vicinity of the site, and we wouldn't really have expected it, anyway, because it tends to occur in streams, rather than in impounded waters like Lake Norman.

There is three other species of mussels occurring in the area that are considered to be sensitive species, but they were not reported as being found in the southern quadrant of Lake Norman.

We also have a picture of the bald eagle, here. They are known to nest at Lake Wylie, which is downstream of McGuire, and Lake James, which is upstream. And they are known from the Catawba River area. And occasionally one flies over the Lake Norman area, but there have been no known nest sites within 60 miles of the site.

We also have a couple of plants. This plant here, in the picture, Schweinitz's sunflower, it is endangered. And there is the Georgia aster, which is a candidate species for listing. And they have been found on

adjacent property, but they are not located at the McGuire site.

So there were no federally or state listed species in the McGuire exclusion area, or even along the associated transmission lines.

For all the issues that the team reviewed we found that there was no new and significant information that was identified either during the scoping process by the licensee during their development of the environmental review, or by the Staff during our analysis.

And we also looked at issues for the uranium fuel cycle and solid waste management, and for decommissioning. These are discussed in Chapter 6 and 7 of the report.

And we also found that there was no new and significant information that was identified for either of these issues. These are both Category 1 issues, and were evaluated generically in the generic environmental impact statement.

And we didn't find anything that would bring out new information related to these, specifically at McGuire.

We also evaluated the potential environmental impact associated with McGuire not operating, in Chapter 8. We looked at a no-action alternative, which is a scenario where the NRC would not renew the operating licenses for McGuire, and then when the plant ceases operation Duke would decommission the facility.

We looked at new generation from coal fired, gas fired, new nuclear, we looked at purchased electric power, we looked at nine alternative technologies, such as wind, solar, hydro power, fuel cells, municipal solid waste, or other biomass derived fuels.

We looked at delayed retirement of other existing facilities, as well as utility sponsored conservation, and then we looked at a combination of these alternatives.

And for each alternative we looked whether the technologies could replace the baseload capacity of McGuire, and whether it could be a feasible alternative to renewal of the plant licenses.

And if they did look like they were feasible alternatives, then we looked at the same type of issues for those alternatives, that we did at the plant.

We looked at things like land use and ecology, and socioeconomic. And the preliminary conclusions, which are given in the draft report, including the no-action alternative, may have environmental effects in at least some impact categories that reach moderate or large significance.

Anyway, that is it for my presentation. Are there any questions at this time?

FACILITATOR CAMERON: Yes, two.

MR. ZELLER: I have a question about the impacts which have to do with the collective off-site radiological impacts from the fuel cycle high level waste, and spent fuel.

It says here, in the document, within the Category 1 issues, that they are not assigned a significance level, and it also says back in Section 8, under the Category 2 analysis for the draft statement, that they are not assigned a significance level there, either.

Where are they considered, and why not? In a coal plant an analogy might be, you know, what comes out of the smoke stack is certainly

part of the environmental impact as waste material.

FACILITATOR CAMERON: And, Becky, do you understand the question? This is, maybe, a Category 1 issue that was not assigned an impact. Do you understand the question?

MS. HARTY: Yes, these are Category 1 issues that were discussed in the generic environmental impact statement, and they weren't assigned a significance level there.

FACILITATOR CAMERON: So, in other words, if no significant new information was found to cause us to alter the Category 1 finding, then there would be no --

MS. HARTY: Then there is no further analysis. If there was information that we discovered during our analysis at McGuire that caused us to say, yes, that is new information, significant information, then we would have re-analyzed that issue and looked at further depth. And at that point we may have assigned it a significance level.

MR. ZELLER: I understand, but maybe I didn't make myself clear, for neither Category 1 nor Category 2, for generic or site-specific impacts were significant levels attached to high level waste and spent fuel impacts. It says it right here.

MS. HARTY: Right. But this is only a Category 1 issue. Where are you reading, exactly?

MR. ZELLER: I'm inside of this book.

MS. HARTY: Can you give me a page?

MR. ZELLER: Yes, it is on Page iii, in the beginning, and then also on Page 8-49, under the summary of alternatives considered.

FACILITATOR CAMERON: It may be a question of how the particular sentence was written, but let's see if we can get to the bottom of that.

MS. HARTY: Let me take a stab at this, and if somebody from the NRC is more familiar with this, then you may ask them the basis for this.

For Category 1 issues, they usually assign a single significance level for all the issues across all the plants it is always small, moderate, or large. And this particular disposal may be a case, from my understanding of this, where they did not assign the small, moderate, or large, but they still said it was generic across all the plants.

Now, I don't know if I'm quite answering your question or not. It is something that you don't really get into unless you decide there is new and significant information at that plant, which throws it out of -- which takes it from the Category 1 where it can just stay generic, to where you have to do a site-specific analysis, and then you would assign a specific, or a significance level at that point.

FACILITATOR CAMERON: I guess that, let me ask Jim Wilson if he has any further explanation of this, because I gather from Lou's question that it was not just the Category 1 issue, because I think that is understandable.

There is a reference, though, to Category 2, and no specific finding be attached. And --

MS. HARTY: Well, I don't see that it referenced the Category 2, and maybe that is in the abstract.

FACILITATOR CAMERON: Because I think that is the heart

of Lou's point. Let's go to Barry and see. This is Barry Zalcman, NRC staff.

MR. ZALCMAN: Let me try and put this in perspective. When Becky laid out the Commission's structure for determining Category 1 issues, we established certain criteria that may be common for all plants, that may be common for plants of a specific design, or that have certain attributes.

It turns out for the cases that you are identifying the conditions are as discretion determined, even though it may not be the same at all plants, it was still going to categorize it as a Category 1 issue.

I think that is the complexity that you are struggling with right now, we are trying to eliminate that in the executive summary. And if you go into Chapter 6 I think you probably are going to have the best representation where we bring together the findings within the guidance, or we actually talk to the issues where the condition, even though it didn't meet the initial criteria for Category 1 determination, elected to make it a Category 1 for that issue.

FACILITATOR CAMERON: Let me just, at a minimum, suggest that the NRC take that as a comment on this draft EIS to, at minimum, make it clear exactly what is going on so that the reader can understand it, okay?

MS. HARTY: Sounds good.

FACILITATOR CAMERON: All right. Other questions before we go to the severe accident aspect of it? Yes, sir.

MR. ANDERSON: My name is Bob Anderson. I just have a question concerning the definitions of small, moderate and large. As far as your take on if the effect is to be large, is it your -- are you wanting to make a change so that it goes down to the small level?

MS. HARTY: I guess the best way of saying that is if it is large, you look at possibilities for mitigation. And in the case that we were in (license renewal), we only had small impacts.

So we didn't find any areas where we needed to suggest any mitigation.

MR. ANDERSON: Because that goes to your last slide, but on alternatives it said that some of the alternatives also include no-action. And some of the no-action are currently in the moderate or large significance.

And if they are currently in the large then are you taking a look at those issues?

MS. HARTY: That is a very good question. Let me actually run down the -- I have a nice list here.

In Chapter 9, actually there is a table in 9-1 where we look at the proposed action versus the no-action alternative, and then there are four other alternatives, coal fired generation, natural gas fired, new nuclear, and then a combination of alternatives.

And to give you something specific we said, okay, for example if we -- if they decided not to renew the license at McGuire, but they needed to replace the energy anyway, and they decided let's put in a coal fired generation plant; when you get to issues such as land use, the land mass that is there for McGuire, they would end up having to take out some trees, maybe buy some additional land, or something like that.

And, actually, the footprint of the plant will be larger than what it is now. So that is going to impact the land use, it is going to impact the ecology, and those impacts would be moderate or large.

And at that time, if they did come in and say, we are going to use a coal fired plant instead of a nuclear power plant, the same EIS process would start all over.

Pardon? Oh, you are right, that wouldn't be a federal action.

MR. WILSON: We looked at the -- we laid out the alternatives and we found significance levels that, for some issues, reached moderate or large impact. We didn't look at mitigation to reduce the impacts of the alternatives. We looked at the impacts of McGuire operation, which were found to be small for all issues, and no mitigation is required.

We didn't go through the same process for each of the alternatives to the McGuire continuing-operation option. Is that clear?

We look at mitigation for the proposed action. We don't look at mitigation for alternatives. We look at mitigation if it happened as an operating impact at McGuire.

MR. ANDERSON: There again maybe I'm reading this wrong. But when it says including no- action alternatives, no-action to me means that it stays the same.

MS. HARTY: No-action means that they don't renew the licenses, and that the plant has been decommissioned.

FACILITATOR CAMERON: So that is the key, I guess, is how you define a no-action alternative?

MS. HARTY: And for that, for the no-action alternative, I will just tell you that on the impacts that were small or moderate on socioeconomics, because the plant is no longer going to be here, and the influence of the economics of the area, on an environmental justice.

FACILITATOR CAMERON: Maybe, again, just in terms of -- maybe it is clear from reading the draft EIS what no-action alternative means. But if it isn't we should make sure that there is no confusion about that.

Let's go to the second part. Thank you very much, Becky.

MS. HARTY: Sure.

FACILITATOR CAMERON: And let's go to the second part of our preliminary findings. And this is Bob Palla from the NRC Staff who is going to talk about severe accident mitigation.

MR. PALLA: I'm Bob Palla with the Probabilistic Safety Assessment Branch of the Office of Nuclear Reactor Regulation.

And let me just jump ahead here. Just, in the way of background, in the way that the document, the GEIS supplement is laid out, Section 5, or Chapter 5.1 discusses, briefly, the design basis accidents, and severe accidents.

And then in Section 5.2 severe accident mitigation alternatives are described. And, just briefly in the way of summarizing, in Section 5.1 the Commission found the probabilistic weighted consequences of severe accidents to be small for all plants.

And the Staff, as part of their review of McGuire, did not review, did not identify any significant new information with regard to consequences from severe accidents.

Accordingly the Staff concludes that there are no impacts of severe accidents beyond those that were already discussed in the generic environmental impact statement, the NUREG-1437.

Now, in accordance with the license renewal regulations,

alternatives to mitigate severe accidents must be considered for all plants where such an analysis has not already been performed. In essence the review of severe accident mitigation alternatives, otherwise referred to as SAMAs, is a Category 2 issue, and is looked at as a plant-specific issue.

And the analysis of severe accident mitigation alternatives is provided in Section 5.2 of the GEIS supplement, I'm probably calling that the wrong thing, but the generic environmental impact statement, in our supplement for McGuire.

This is a summary, but I want to give you a little bit of background, before, about the process by which we identify potential plant improvements.

The purpose of the severe accident mitigation assessment is to ensure that plant changes that have the potential to further reduce risk at the plant are identified and systematically evaluated.

Now, these improvements include design changes, could be procedure changes, training enhancements. They are both, the changes could either prevent core damage, or they could mitigate the effects of core damage, given that core damage will occur you can still do things that would reduce the consequences.

So our scope is to look at both prevention and mitigation, and we include consideration of hardware procedure, and other types of changes like that.

The approach that we use, we base much of our study on information provided by the licensee. We have a heavy focus on the use of the probabilistic safety assessment study.

Now, the probabilistic safety assessment study, sometimes referred to as PSA, or the name PRA, probabilistic risk assessment has also been used, they are used interchangeably.

But what that study does is it looks at the different systems in the plant that could be used to provide adequate core cooling and containment integrity. And it looks at different ways that the systems would need to fail in order to result in a sequence preceding to core damage.

So you try to identify the severe accident sequences, and identify and characterize the consequences, the effects on the environment, frequently expressed in terms of person-rem for the various types of releases that could occur.

Now, when we look at the severe accident mitigation alternatives the very first step is to characterize the plant risk and, basically, where is that risk coming from, what kind of sequences contribute to the risk.

And, you know, what kind of combinations of things must go wrong in order to fail the core cooling, or to fail the containment. And that probabilistic safety assessment study gives us a very good focus on where one should, you know, emphasize and search for plant improvements.

So the first step is to characterize the overall risk and the leading contributors. The second step is to identify design improvements that could further reduce risk.

And, in effect, we look very closely at the, as I say, the PRA results, the dominant sequences, the so-called cutsets in PRA jargon, it is basically the combinations of things that have to fail.

And by reviewing those that suggest ways that one could

improve risk, or reduce it. Also there is a heavy emphasis on looking at similar types of studies that were done for other plants.

For example, and most relevant in this case, there was a similar study done for the Watts Bar plant several years ago, and that was used as a source of information. Potential improvements were identified in the Watts Bar study, and they were looked at specifically in the McGuire SAMA analysis as well.

An additional source of information of potential improvements comes from NRC study which was built upon the review of what we call the individual plant examinations.

In the 1990s there was a requirement for all plants to perform an individual plant examination. We refer to it, commonly, as the IPE. But, in effect, it is a PRA. And one was done for every plant.

And this is used to identify vulnerabilities to severe accidents in those plants. And what the NRC did is reviewed all of the individual plant examinations, and collected those insights into a report called NUREG-1560.

And this was a source document used by Duke and considered by the NRC in assessing severe accident mitigation alternatives. In many of those individual plant examinations various licensees identified potential improvements, and they were considered also as part of the McGuire SAMA evaluation.

Now, once one has taken those first two steps and identified the risk, identified ways that you might reduce the risk, the third step is to quantify the risk reduction potential, and the costs for each of these potential improvements.

The risk reduction, in general, is done in a very bounding and conservative way. The risk reduction is, generally, underestimated, and the costs are generally overestimated. These would be the costs that a licensee would have to expend to implement.

These are, generally, overestimated, just for purposes of getting the analysis done and not spending a lot of money on developing a cost estimate, it could take a lot of resources.

So the general approach is to make a conservatively high cost estimate that frequently omits several of the factors that would contribute to costs, such as maintenance, and surveillance. These are, typically, costs that a licensee would incur, but they are not generally given much attention in developing cost estimates.

So you would now have a set of severe accident mitigation alternatives, each one with a cost estimate, and each one with a risk reduction estimate.

And the fourth, and really the last major step of this process is to look at whether implementation of the improvement is justified. And for this purpose we used an NRC guidance document that deals with regulatory analysis, and how that should be carried out.

There are a number of NUREG reports that describe the basic assumptions that are used there. And, in effect, what you do is you are converting, you are determining the value of averted risk, and you put this all in terms of dollars, and then you can compare the dollars of averted risk to the cost of the enhancement.

And in doing so it gives you a common basis for comparing

costs and benefits. And one would then be able to make a reasoned decision about whether it is worth implementing the fix.

What we looked for, in order to justify a fix, is that it would be cost-beneficial, number one criteria; it would need to provide a significant risk reduction potential, second key consideration.

And then for purposes of license renewal the real action here is to look at the 20 years of additional life of the plant. And we focus on whether these improvements actually deal with the aging effects that occur during the 20 year license renewal period.

So it is really kind of a three-tiered criteria that we use there to make a judgement.

And now I can proceed to the slide that is on the screen, there, and summarize the essence of what was done in the McGuire analysis. Fifteen candidate improvements were evaluated through the systematic use of the PRA, and the review of these other analysis, as I've described.

Seven of these related to reducing the core damage frequency. These would be termed preventive SAMAS. And eight of the improvements related to improving containment performance, given a core damage event, these eight SAMAs would reduce the consequences by improving the containment's ability to deal with those types of events.

Based on the use of the regulatory analysis guidelines, and consideration of the risk reduction and the costs of each of these SAMAS, the NRC Staff determined that one SAMA appears to be cost-beneficial. Although it does not relate to aging, it does appear like it would be cost-beneficial.

I will discuss this a bit more in a moment. This SAMA deals

with providing backup power to the hydrogen control system. Ice condenser plants are equipped with a hydrogen control system which is a number of igniters, like 60 or so igniters, distributed throughout the plant.

These are powered from the AC power sources off-site, and the on-site diesel generators. What we looked at here is the availability of that system, during station blackouts.

A key concern is that in a station blackout this system is not available because it is dependent on the AC power. And, by definition, once you've reached station blackout conditions, these main line power sources are not available.

So the potential improvement here is to provide a backup means of power, such as a portable generator that is independent of these other main diesel generators, and could be used on an ad hoc basis could be hooked up to supply the igniters with power.

Now, this is not as simple as it may seem, because there is a question about whether the air return fans in the containment building need to also be provided from a backup power source.

These air return fans mix the containment environment, the hydrogen air steam mixture inside containment is basically mixed with, through the use of the fans.

And in a station blackout if you didn't power the fans, but only powered the igniters from a backup power source, it becomes, really, a technical question whether that is as effective as if you power the fans.

There might be greater hydrogen gradients, the distribution within the containment might not be as uniform as if the fans were operating.

And, potentially, that could be not as effective as if the fans were operating.

So what Duke's claim is, is that it would be more prudent to power both the fans and the igniters. Their belief, really, is that you shouldn't power the igniters without powering the fans at the same time.

So, in effect, what that does is it makes the SAMA, the plant improvement we are talking about, is really a combination of two things. It would be powering the igniters, and powering the fans.

That changes the costs of the improvement and, according to the Duke PRA, it would not be cost-beneficial to provide both of those systems with backup power.

Now, in the Staff's assessment we basically looked at two situations in making our judgement. And it appears that, to back up a second, there was a study done by Sandia National Laboratory that related to direct containment heating. And that study suggests that the containments could be vulnerable in a station blackout.

They had different assumptions. In effect the assumptions in the Sandia study were substantially different than the assumptions in Duke's PRA.

And, as part of our review we looked at the effect if one used the Sandia assumptions in concert with the PRA, and what would that do to the benefit side of the equation.

And we found, and we reported in the GEIS supplement for McGuire, we show the results of this, that the benefits could be substantially greater if the containment was modeled in accordance with the assumptions made in the Sandia study.

Now, a second thing that we also considered is whether, in fact, the fans need to be supplied from the backup power as well. There really isn't a good technical basis, one way or the other.

The existing information is not conclusive whether fans need to be provided, you know, in order to have a safe situation. And we think there is a very good chance that one could make a case that you don't need to actually provide the air return fans with backup power, that igniters alone would be effective in the station blackout sequences.

And under that assumption this improvement would be cost-beneficial. So, in effect, we've identified a potential improvement that is potentially cost-beneficial. It will depend, really, on whether the air return fans have to be supplied at the same time as providing the backup power to the igniters.

And we have identified, NRC has a generic safety issue that has been underway. It was identified as a result of the -- it is a rulemaking that is ongoing as part of hydrogen control. And it was in recognition of the Sandia study.

We are looking at this generically for all operating plants, for operating ice condenser plants, looking at this issue to determine if it needs to be, basically, made for all the operating plants as an operating plant issue.

So, to conclude with this statement, we are looking at hydrogen control system backup power as a generic issue. It is not an aging related issue, so we don't expect to require anything to be done as part of license renewal, but it is being looked at as a generic issue.

None of the remaining candidates, candidate plant

improvements, were identified as being cost-beneficial.

And the overall conclusion is that additional plant improvements to further mitigate severe accidents, are not required at McGuire as part of license renewal, and that the improvements related to hydrogen control are being further evaluated as a current operating plant issue.

Any questions?

FACILITATOR CAMERON: Okay, thank you Bob. Are there questions before we go to Jim Wilson for the overall conclusion, in the draft, I would emphasize the draft environmental impact statement.

(No response.)

FACILITATOR CAMERON: All right, thank you very much Bob, for that in-depth description and analysis. Now we are going to go to Jim Wilson.

MR. WILSON: To summarize, the impacts of the proposed action (that is, license renewal at McGuire) are small for all impact areas. The impacts of the alternatives to license renewal range from small to large.

Therefore, the Staff's preliminary conclusion is that the impacts of license renewal at McGuire are acceptable from an environmental standpoint.

A quick recap of current status... We issued the draft environmental impact statement for McGuire license renewal on May 6th. We are currently in the middle of a public comment period that is scheduled to end on August 2nd.

We expect to address the public comments, including any necessary revisions to the draft environmental impact statement, and issue a

final environmental impact statement in January of next year.

This slide is to provide information on how to access the draft environmental impact statement for McGuire. You can contact me directly at the phone number provided, I will send you a copy.

There are a number of copies out in the lobby, you can pick one up on your way out. In addition, the library at the University of North Carolina, at Charlotte, has copies for you to look at, and the document is available on the web at the address given.

The last slide gives details on how to provide and submit comments on the draft. This comment period, as I said before, goes until August 2nd. You can submit comments by writing directly to the address given.

You can send them to this email address here, McGuireEIS@nrc.gov, or you can bring them in person to our headquarters in Rockville. Chip?

FACILITATOR CAMERON: Okay. Before we go to our formal comment, are there any comments for Jim on the overall conclusion, or any of the schedule process?

One point, Jim, that may help us bring full circle back to the front is that you indicated that the final environmental impact statement would be ready in January of next year.

And then that gets -- what happens with the final environmental impact statement in terms of the overall decision-making process?

MR. WILSON: What happens at that point is that if you leave your address with one of the receptionists in the lobby, we will mail you a copy

of the final environmental impact statement so that you can look through it.

Once we issue it, it undergoes a 30-day review by EPA under CEQ guidelines to see if they identify any problems with it. After that, it can be considered by the Commission as part of its basis for issuance of the proposed action.

Then the final environmental impact statement will go along with the safety evaluation report, the inspection findings, and the report from the ACRS and all of these will be taken into consideration by the Commission in making a final decision.

FACILITATOR CAMERON: So it all gets married up, okay.

We did, I think we have a clarification, or an answer for Lou Zeller's question from before. I'm going to ask Barry to help us with that.

MR. ZALCMAN: Thanks, Chip. Again, this is Barry Zalcman, with the Staff.

I just wanted to add, for the record, so that others that may have heard the question raised by Mr. Zeller have some frame of reference, so that they can draw a conclusion regarding this.

In no way it diminishes our obligation to make sure that our environmental impact statement is written in plain and clear language, so we are taking back that issue.

But I would refer the readers to the generic environmental impact statement, which is a base document, on which site-specific supplements are created.

The base document provided the basis for the license renewal rule that was made part of Part 51 in 1996, the generic environmental

impact statement is a support document to that.

If I could refer users of the GEIS to Section 6.2.4, which deals with conclusions associated with uranium fuel cycle and solid waste management issues. The radiological, and I am going to read this from the document, "radiological and nonradiological environmental impacts of the uranium fuel cycle have been reviewed."

Later in that section it goes on with: "The doses are very small fractions of regulatory units, and even small fractions of natural background exposure to the same population. Thus standards exist that can be used to reach a conclusion as to the significance of the magnitude of the collective radiological effects.

"Nevertheless, a judgement as to the regulatory NEPA implication of this issue should be made, and it makes no sense to repeat the same judgement in every case.

"The Commission concludes that these impacts were acceptable, and that these impacts would not be sufficiently large to require the NEPA conclusion for any plant. that the option of extended operations under 10CFR54 should be eliminated.

"Accordingly, while the Commission has allowed a site a single level of significance for collective effects of the fuel cycle, this issue is considered Category 1." That is as far as I'm going to read into the record.

More importantly, the issue that you had raised deals with categorization, meaning is it a Category 1 or Category 2, non-significance, the Staff has, in fact, considered the significance. Thank you.

FACILITATOR CAMERON: Thanks, Barry. And can you

make sure that Lou has those specific page citations so that, and context on --

All right, thank you all very much for listening. And now we want to listen to you. And I'm going to ask Jack Peel, who is the manager of engineering at the McGuire station 2 for Duke Energy Corporation, to talk to us about Duke's vision and rationale in proceeding with the license renewal application. Jack?

MR. PEEL: Thank you very much, Mr. Cameron. My name is Jack Peel, and I'm manager of engineering at the McGuire site.

On behalf of Duke Power I would like to express public thanks and admiration for our employees. And I'm referring to the employees not only located at McGuire site, but also elsewhere in our company, for their excellent efforts, over the years, to make McGuire successful for an operating period of 21 years to date.

And I would be remiss in not also recognizing our license renewal project team, some of those members are here listening today. I appreciate the work they have done to create our application, and to squire it along in the review cycle.

I assure you that we strongly believe that the McGuire plant is a worthy candidate for license renewal.

I want to thank the Nuclear Regulatory Commission for having developed a process which is thorough and effective. That process has been described by at least two of the speakers before me.

After reviewing, really just a cursory review of the draft supplemental environmental impact statement would reveal the thoroughness of the work that the NRC and the National Labs have done.

After reviewing the draft statement, and I'm referring specifically to Supplement 8, Duke Power agrees with the conclusions of that draft. Now, we intend to do more detailed technical reviews in the weeks ahead, and we will fulfill, if we have any comments, we will provide them in writing, and fulfill the schedule date that Mr. Cameron mentioned, which is August 2nd of this year.

Most importantly I want to express thanks to our neighbors here in the local community who have been so supportive of our operations over the years. We, at McGuire, have made a sincere effort to be a good neighbor.

We take public safety very seriously. Public health and safety is our number one priority, and that is our unwavering commitment.

So we are glad to have the opportunity to go through this license renewal process; we are proud of our employees, proud of our plant, and proud of our operating history, and I thank you for your attention.

FACILITATOR CAMERON: Thank you very much, Jack. Now we will go to Lou Zeller of the Blue Ridge Environmental Defense League, and then we will go to Mr. Robert Mahood.

MR. ZELLER: Thank you. My name is Lou Zeller, I'm on the staff of the Blue Ridge Environmental Defense League.

I have just two brief overviews that I would like to present here today, with regards to this license renewal.

One has to do with the provision of potassium iodide to residents living within the ten mile exclusion zone. It is noted here, in the draft report for comment, Supplement 8, that Duke completed a comprehensive

effort to identify and evaluate the potential cost benefit plans enhancements to reduce the risk associated with severe accidents at McGuire.

As a result, Duke concluded no additional mitigation alternatives are cost-beneficial. Among these analysis are averted public exposure costs.

Recently there has been a lot of concern about off-site exposures from accidents. And, of course, the provision of such tablets as these here, the potassium iodide tablets to the public.

Of course these are available, actually the Nuclear Regulatory Commission has stockpiled several million doses of these, and an 800,000 appropriation, which I think would make the cost of this virtually zero.

The radioactive iodine-131 isotope contributes a major constituent in nuclear plant accidents. We could look back to Chernobyl, for example, 150 miles from the site iodine-131 was detected.

In that case, the Food and Drug Administration decades ago, and continues to say that it is a safe and effective method. Oak Ridge National Laboratory Paul Zann saying that provision of iodine prevents 99 percent of the damage to the thyroid.

In recent Nuclear Regulatory Commission publications it does talk about a rule regarding potassium iodide in emergency planning. This is from May the 13th of this year.

That licensees have the obligation to confirm that off-site authorities have considered the use of potassium iodide as supplemental protective action for the general public.

It also makes a supplemental point here, and I'm reading

from the NRC, it will also require the licensees to use this information in developing protective action recommendations for off-site agencies.

I have two questions for the record. One, has Duke Energy fulfilled the Nuclear Regulatory Commission requirement with regard to off-site authorities?

And, two, how has Duke used this information in protective action recommendations? I see nothing to that effect in the document before us today.

The other issue has to do with the one that I raised during the presentations, and it has to do with high level waste. On advice of the staff I did go back to reread Chapter 6 here about single significance levels, which are not assigned to high level waste.

Within Chapter 6 it merely, I think, begs the question, because there is no analysis, and only a recapitulation of the regulatory limits. And I think Barry Zalcman read something read something from the generic environmental impact statement which essentially says the very same thing.

In that the Commission, and this is again from Page 6-5 in supplement, in Supplement 8 to the draft of today, it says: The Commission concludes these impacts are acceptable, and that the impacts would not be sufficiently large.

I would submit that the lack of a single significance level at this point, and this is a lone exception, so far as I can tell, every other impact in this document is considered small.

The impacts here are not small, they are not moderate, they are large. And there seems to be a reluctance to say large impacts in this

case, particularly in the case before us, which is license renewal extension.

The high level waste would increase, the impacts would increase for an additional 20 years. I think that before this process can move forward there must be a better analysis of the impacts from high level waste.

It is not reassuring to me that the staff does not consider a change in its position necessary with regards to high level waste disposal, and consideration of the Category 1 issue.

I wonder what it would take, considering that the document here mentions the possibility of 1,000 premature cancer deaths world-wide, for a 100,000 metric ton repository.

Thank you very much.

FACILITATOR CAMERON: Thank you, Lou. Let's go to Mr. Mahood. And I hope I've pronounced your name correctly.

MR. MAHOOD: You certainly have. It is a rare pleasure, thank you.

The whole strange thing about this process is that you are still completely bound by regulations, the original regulations from about 1954, I suppose with some revisions.

And you talk about there being no new information, no new information, and for the most part I think that is perfectly true within the sort of frame of reference.

But what I would submit to you is that while there may be no new information, there are a couple of new circumstances that I don't think can be ignored when the time comes to consider whether to go on with the nuclear industry.

One of these, which is specific to McGuire, and also to Catawba plant, is that we have had an enormous population explosion here, and it is not stopping, it is continuing to go on. Whereas we have not had anything like an enormous improvement in the evacuation routes.

And hardly anyone in this region believes that they could actually get out. And FEMA doesn't seem, which is the agency that is most responsible, or supposed to be responsible for this, seems to be thinking entirely in pre-9/11 terms.

Because when you have a meltdown, if you start with a problem with the plant, and then you try to correct it, and then you find you are not succeeding, and so you send out the first warning, and then you are still not succeeding, and you send out a secondary, tertiary, quatrinary warnings, and so on, you've got hours, and hours, and hours of this to start evacuating some things first, and all that.

But if a plane is driven into your spent fuel deposits, whether they are in dry casks, or in pools of water, they are outside the containment domes.

So all the things that you've been saying about how strong the domes are, and how -- what great safeguards you have against operational failures, become completely irrelevant in the case of an attack by even a fairly small plane, a moderately small plane on the spent fuel containment.

And it seems to me that that would have, if that happened, it would have something of an environmental impact, in that there is about 20 or 30 times as much fissionable material outside of your highly fortified domes, as there is inside of them.

I also note, just to back up what I said about evacuation, that Mr. Wayne Broome, I believe the name is, who is the local official that would do the evacuating, or take charge of evacuation here, talks entirely in pre-9/11 terms.

He says, well, we figure we can get everybody out in under six hours, provided that first we had cleared the lakes, we had cleared the schools, and we cleared all the businesses.

Well, that is kind of sort of a leisurely scenario that you have in a meltdown, but you don't have that in an instant attack on a plant, on the spent fuel depositories.

I called the Charlotte Mecklenburg schools, and I found that they thought it would take them about an hour, or an hour and a half to evacuate. When I pinned them down I found out, because this is sort of unbelievable, to get everybody in the region out of the schools in an hour and a half, or something like that, when it takes buses many, many hours on the roads to get the kids to and from school every day, in three shifts.

And he said, yes, but we only need to evacuate a ten mile radius. Well, you know, that would be totally inadequate in such an accident. Well, not accident, but such an attack.

He also said that the private schools, of which there are many around here, were not included in the plans, they all have plans of their own. I called one of the private schools, got the secretary, and asked what their plan was.

And she said, their safety man wasn't there, so I would have to wait for him to get back. And I said, well, what if the attack happened right

now and your safety man isn't here? You must have the plan, it must be there.

And so she looked for it, and she couldn't find it. She said it was in her drawer, but she couldn't find it. The principal wasn't there, either. And then she got mad and pretty much hung up on me.

So you can see that this region is just not prepared for an eventuality like that. And the change in circumstances as to the population density, this is going to keep on changing.

So here this renewal comes up 20 years from now. What do you think it is going to look like around these plants 20 years from now?

It seems to me that it would be the responsible thing to do, to make some recommendations to the communities around here, to the governments around here, to put a moratorium on any further building in your evacuation zone, until the roads can be improved to the point where a quick evacuation is possible.

And it seems to me that somebody needs to take this responsibility, whether it is Duke Power, whether it is the NRC, or whether it is FEMA, somebody needs to be advising local governments that they can't go on just packing people around these plants indefinitely, if you want to go on operating for another 40 years.

Thank you.

FACILITATOR CAMERON: Thank you very much for that information and those recommendations, Mr. Mahood.

And I think that is all that we have in terms of formal comments for this afternoon session. We will be back tonight for a 7 o'clock meeting, and a 6 o'clock open house.

And, for your information, we are going to be doing a similar set of meetings on the Catawba Nuclear Power Plant on June 27th at the Rock Hill, South Carolina City Hall.

And thank you all for being here, and send us your written comments if you so desire. There are copies of this document out on the desk, and we are adjourned. Thank you.

(Whereupon, at 3:12 p.m. the above-entitled matter was concluded.)

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

Title: McGuire Nuclear Station, Units 1 and 2
License Renewal Draft EIS - Public Meeting
Evening Session

Docket Numbers: 50-369 and 50-370

Location: Huntersville, North Carolina

Date: Wednesday, June 12, 2002

Work Order No.: NRC-421 Pages 1-48

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Attachment 1a

U.S. NUCLEAR REGULATORY COMMISSION

+ + + + +

MCGUIRE NUCLEAR STATION, UNITS 1 AND 2

LICENSE RENEWAL

DRAFT ENVIRONMENTAL IMPACT STATEMENT

+ + + + +

PUBLIC MEETING

+ + + + +

WEDNESDAY, JUNE 12, 2002

The meeting was held at 7:00 p.m. at the Central Piedmont Community College, North Campus, 11930 Verhoeff Dr., Huntersville, North Carolina, Chip Cameron, Facilitator, presiding.

PRESENT:

CHIP CAMERON, FACILITATOR

JOHN TAPPERT

RANI FRANOVICH

JIM WILSON

BECKY HARTY

BOB PALLA

CHARLES BRANDT

ALSO PRESENT:

JOHN COLLINS

ROBERT MAHOOD

GARY KNOX

BREW BARRON

A-G-E-N-D-A

	Page
Welcome - Facilitator Cameron	3
John Tappert	7
Overview of license renewal process	
Rani Franovich	9
Overview of Environmental review process	
Jim Wilson	14
Results of Environmental Review	
Becky Harty	17
Bob Palla	27
Information on Comment Process	
Jim Wilson	39
Public comments	
Brew Barron	43
Robert Mahood	45
Closing - Facilitator Cameron	48

P-R-O-C-E-E-D-I-N-G-S (7:00 p.m.)

FACILITATOR CAMERON: Good evening, everyone, and welcome to our meeting today. My name is Chip Cameron, I'm the Special Counsel for Public Liaison at the Nuclear Regulatory Commission, and it is my pleasure to serve as your facilitator tonight, and it is nice to be back here.

We were here last September to do what was called a scoping meeting to gather information on which to base the preparation of the environmental impact statement on the applications by the Duke Energy Corporation to renew the licenses at the McGuire nuclear station units 1 and 2.

And we are back tonight to discuss this document. This is the draft environmental impact statement on the McGuire license renewal application, and these are available out front, if you don't have one.

And we want to tell you what is in the draft environmental impact statement, talk about the preliminary findings, and about license renewal in general, and most importantly we want to hear your comments on the issues that are in the draft environmental impact statement.

And those comments will help us to finalize the environmental impact statement, which is an important part of the license renewal evaluation process.

We are taking written comments, also, on the draft environmental impact statement, but we are meeting with you tonight to talk to you in person. I just want to emphasize that your comments tonight will have the same weight as any written comments that are submitted to us.

And perhaps you will hear some information tonight that will enlighten your written comments, or stimulate you to send in some written

comments to us.

The meeting format tonight, we are going to use two segments, basically. One is going to give you some context on license renewal. We would like to answer any questions that you have on those presentations, and the second segment of the meeting is to hear from anybody who wants to give us a more formal comment on the issues.

In terms of ground rules, if you have a question after one of the presentations, please just signal me, and I will bring you this talking stick, and please give us your name, and affiliation at that time, so that we can get that on the transcript. We are taking a transcript tonight.

I would ask that only one person speak at a time so that we can get a clean report, and so that we all can give our attention, full attention to whomever has the floor at the moment.

I also want to make sure that everybody who wants to gets a chance to speak tonight. I don't think we are going to have too many time pressures on us in that regard, but during questions, during the interactive part of the meeting, if you could just try to be concise, that would be helpful in terms of reaching the goal of making sure that everybody who wants to talk has an opportunity.

When we get to the formal comment part of it, I would like to follow a five minute guideline. If you could try to confine your formal remarks to about five minutes. And, obviously, there is flexibility there, because we -- I don't think we are going to have a whole lot of people who are going to be making statements tonight.

But if you could try to make it five minutes, that would also be

helpful. I just want to thank you for being here. The NRC has an important decision to make on whether to renew the license, and on finalizing the draft environmental impact statement.

And what I would like to do now is just quickly go over the agenda for you, and at the same time introduce the speakers who will be giving us some background information tonight.

First of all we are going to go to Mr. John Tappert, who is right here. I've asked John to give us a welcome, because he is the section leader of the environmental section at the NRC that does all of the environmental reviews for license renewal applications. John and his staff perform that function.

He has been with the NRC for 11 years, he has a Masters in environmental engineering, and he was a resident inspector at nuclear power plants in Region one, that the NRC regulates. And we will be hearing from John in just a minute.

After we hear from John gives you a welcome we are going to hear from Ms. Rani Franovich, who is right here. And Rani is going to give us an overview of the license renewal process, so you understand what the entire evaluation process is, and how that environmental impact statement will fit into that process.

But Rani is the project manager for the safety review of the license renewal application for McGuire. And she has also been with the NRC for 11 years. She happened to be the resident inspector at the Catawba nuclear power plant down here, and she has a Masters in industrial and systems engineering from Virginia Tech.

After Rani's talk we will go out to you and see if there is any questions. Next we are going to go to Mr. Jim Wilson. Jim is the environmental project manager on the McGuire license renewal application.

And he is responsible for making sure that the environmental review gets done, and that that review is documented in an environmental impact statement. And Jim is also in the office of nuclear reactor regulation, just as Rani is, and John is.

Jim has been with the Commission for 27 years, and he has a Masters in zoology, also from Virginia Tech. And we will go to you for questions after that, after Jim's presentation.

Then we are going to get into what is in the draft environmental impact statement, what are the preliminary findings on the impacts and conclusions and alternatives.

And we have Ms. Becky Harty, tonight with us, who is the project team leader from Pacific Northwest Lab. The Commission is using Pacific Northwest Lab, and other consultants, other experts, to help us do the environmental review.

And Becky is going to present the preliminary findings in the environmental impact statement. She is a senior research scientist at Pacific Northwest Lab in the state of Washington, and she has had many years experience as an environmental and health related studies.

She has a Masters in fisheries, and oceanographic sciences from the University of Washington.

Then we will go on to you, again, for questions. And we are going to go, then, to another part of the environmental impact statement. And

that part deals with looking at what types of accidents could happen, how they could be prevented, how they could be mitigated.

And we have Bob Palla, from the NRC Staff, with us tonight to talk about that. He has had 20 years experience at the NRC working on the analysis of severe accident issues. He is in the Probabilistic Safety Assessment Branch, again, within the Commission's Office of Nuclear Reactor Regulation.

He has a Masters degree in mechanical engineering from the University of Maryland. Then we will go on to you for questions, and then we are going to come back to Jim Wilson to tell us about the conclusion, and some housekeeping details connected to the draft environmental impact statement.

And I would urge you to just take advantage to talking to the NRC staff people. We also have other staff here, and talk to the research scientists that are here, and contact the NRC folks, call them, send them an email if you have any questions or comments during this process.

And with that I will ask John to come up and give us a welcome.

MR. TAPPERT: Welcome. Thank you, Chip. As Chip said, my name is John Tappert, I'm the chief in the environmental section in the Office of Nuclear Reactor Regulation.

I too would like to welcome you to this meeting, and thank you for participating in our process. As Chip mentioned, there are several things we would like to cover in today's meeting.

First we would like to provide a brief overview of the entire license renewal process. This includes both the safety review, as well as the

environmental review, which is the principal focus of tonight's meeting.

Secondly we would like to provide you the preliminary results of our environmental review, which assesses the environmental impacts associated with extending the operating license for McGuire nuclear power plants, for an additional 20 years.

And, finally, we will provide you some additional information about how you can participate in this process by submitting written comments on the draft environmental impact statement.

At the conclusion of the Staff's presentation, we would be happy to accept any questions or comments that you may have on that draft environmental impact statement.

But first let me provide some context for the license renewal process. The Atomic Energy Act gives the NRC the authority to issue operating licenses to commercial nuclear power plants for a period of 40 years.

For McGuire Units 1 and 2 those operating licenses will expire in 2021 and 2023, respectively. Our regulations also make provisions for extending these operating licenses for an additional 20 years, as part of the license renewal process.

Duke Energy has requested license renewal for both of the McGuire units. As part of the NRC review of that license renewal application we held an environmental scoping meeting here last September.

At that meeting we provided information on the license renewal process, and also sought public input on issues that should be addressed in the environmental impact statement.

At that scoping meeting we indicated we would come back

again, as we are today, to provide you with the preliminary results of our draft environmental impact statement.

One of the principal purposes of this meeting is to receive your comments and questions on that draft. And with that I would like to ask Rani Franovich to give a brief overview of the safety review portion of the license renewal process.

M S . F R A N O V I C H :

Thank you, John. Good evening. As John indicated, I'm Rani Franovich, the project manager for the safety review of the application for license renewal for McGuire Nuclear Station.

Before I talk about the license renewal process, and the staff's safety review, I would like to talk about the Nuclear Regulatory Commission, or NRC, what we do, and what our mission is.

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

The NRC consists of five Commissioners, one of whom is the Chairman, and the staff. The regulations enforced by the NRC are issued under Title 10 of the Code of Federal Regulations, commonly referred to as 10CFR in the nuclear industry.

The Atomic Energy Act provides for a 40-year license term for power reactors, but it also allows for renewal. That 40-year term is based primarily on economic and anti-trust considerations, rather than safety limitations.

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

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

Applications for license renewal 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, decisions to replace or recondition major components can involve significant capital investments. As such these decisions involve financial planning many years in advance of the extended period of operation.

Now I would like to talk about license renewal, which is governed by the requirements of 10CFR Part 54, or the License Renewal Rule, which defines the regulatory process by which a nuclear utility, such as Duke Energy Corporation, applies for a renewed operating license.

The License Renewal Rule incorporates 10CFR Part 51 by reference. 10CFR Part 51 provides for the preparation of an environmental impact statement, or EIS.

The license renewal process defined in 10CFR Part 54 is very similar to the original licensing process in that it involves a safety review, an environmental impact evaluation, plant inspections, and review by the Advisory

Committee on Reactor Safeguards, or the ACRS.

The ACRS is a group of scientists and nuclear industry experts who serve as a consultant body to the Commission. The ACRS performs an independent review of the license renewal application, and the staff's safety evaluation, and they report their findings and recommendations directly to the Commission.

The next slide illustrates two parallel processes. The safety review process, which you see at the top of the slide, and the environmental review process, at the bottom of the slide.

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

The Staff assesses how the Applicant proposes to monitor or manage aging of certain components that are within the scope of license renewal.

The Staff's review is documented in a safety evaluation report, and the safety evaluation report is provided to the ACRS for review. The ACRS then generates a report of their own to document their review of the Staff's evaluation.

The safety review process involves two to three inspections which are documented in NRC inspection reports. These inspection reports are considered, with the safety evaluation report, and the ACRS report, in the NRC's decision to renew nuclear units' operating licenses.

If there is a Petition to Intervene, sufficient standing can be demonstrated and an aspect within the scope of license renewal has been identified, then hearings may also be involved in the renewal process. These hearings will play an important role in the NRC's decision to renew the operating license, as well.

At the bottom of the slide is the other parallel process, the environmental review, which involves scoping activities, preparation of the draft supplement to the generic environmental impact statement, solicitation of public comments on the draft supplement, and then the issuance of a final supplement to the generic environmental impact statement. This document also factors into the Agency's decision on the application.

During the safety evaluation, the Staff assesses the effectiveness of the existing or proposed inspection and maintenance activities to manage aging effects applicable to a defined scope of passive structures and components.

Part 54 requires the application to also include an evaluation of time-limited aging analyses, which are those design analyses that specifically include assumptions about plant life, usually 40 years.

Current regulations are adequate for addressing active components, such as pumps and valves, which are continuously challenged to reveal 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 2001 the NRC issued a Federal Register Notice to

announce its acceptance of the Duke Energy application for renewal of the operating licenses for Catawba and McGuire.

This notice also announced the opportunity for public participation in the process. The NRC received two Petitions to Intervene, one from the Nuclear Information and Resource Service, and the other from the Blue Ridge Environmental Defense League.

An Atomic Safety and Licensing Board, or ASLB, was established to preside over the proceedings. In an Order issued on January 24th, 2002, the ASLB granted both petitions for a hearing, and admitted two contentions, one pertaining to the impact of anticipated MOX, or mixed oxide, fuel on aging and environmental issues, and the second on the completeness of the severe accident mitigation alternatives, or SAMA, analysis for station blackout events at ice condenser plants.

A third issue concerning terrorism was forwarded to the Commission for review. This concludes my summary of the license renewal process, and the Staff's safety review.

At this time I can answer questions, if there are any.

FACILITATOR CAMERON: Anybody have any questions, at all, for us on that particular presentation?

(No response.)

FACILITATOR CAMERON: Okay. Well, we are going to get a little bit more specific now. Thank you very much, Rani.

MS. FRANOVICH: Sure.

FACILITATOR CAMERON: And we are going to go to Jim Wilson to talk about the environmental review process.

MS. FRANOVICH: And if anybody does think of any questions I will be around this evening, and available to answer them.

FACILITATOR CAMERON: Great, thank you, Rani.

MR. WILSON: Thank you, Chip. My name is Jim Wilson, I'm the environmental project manager for the McGuire license renewal project. I'm responsible for coordinating the efforts of the NRC Staff, and our contractors from the National Laboratories, to conduct and document the environmental review associated with Duke Energy's application for license renewal at McGuire.

NEPA, the National Environmental Policy Act, was enacted in 1969. It is one of the most significant pieces of environmental legislation that has ever been passed in this country.

It requires all federal agencies to use a systematic approach to consider environmental impacts during certain decision-making proceedings regarding major federal actions.

NEPA requires that we examine the environmental impacts of the proposed action, and consider mitigation measures when impacts are severe.

NEPA requires that we consider alternatives to the proposed action and that the impacts of those alternatives also be evaluated.

Finally, NEPA requires that we disclose all this information and invite public participation to evaluate it. The NRC has determined that it will prepare an environmental impact statement associated with the renewal of an operating plant license for an additional 20 years.

We are, therefore, following the process required by NEPA

and have prepared a draft environmental impact statement that describes the environmental impacts associated with the operation of McGuire Nuclear Station units for an additional 20 years.

That draft environmental impact statement was issued last month, and the meetings today are being held to receive your comments on it.

This slide describes the objective of our environmental review. Simply put, we are trying to determine whether the renewal of the McGuire licenses is acceptable from an environmental standpoint.

This slide shows in a little more detail the environmental review process associated with the license renewal process for McGuire. We received the application for renewal last June. Last August, we issued a Notice of Intent in the Federal Register announcing that we were going to be preparing an environmental impact statement, and inviting the public to participate in the scoping process.

In September, during the scoping period, we held two public meetings here in Huntersville to receive public comments on the scope of issues that should be included in the environmental impact statement for McGuire's license renewal.

Also in September, we went to the McGuire site with a combined team of NRC staff and personnel from for of the National Laboratories, with background in the specific technical and scientific disciplines required to perform this environmental review.

At that time, we familiarized ourselves with the site and we met with the staff from Duke to discuss the information that they had submitted in their license renewal application. We reviewed the environmental

documentation maintained at the plant, and we examined Duke's evaluation process for new and significant information.

In addition we contacted state, federal, and local officials, as well as local service agencies, to obtain information on the area and on the McGuire station.

At the close of the scoping comment period, we gathered up and considered all the comments that we had received from the public at both public meetings, through e-mails, and by letters that we received from the public and state and federal agencies.

Many of these comments contributed significantly to the document that we are here to discuss today.

In January of this year we issued requests for additional information, to ensure that any information we relied on, and that had not been included in the original application, was submitted on the docket.

A month ago, on May 6th, we issued the draft environmental impact statement for public comment. This is Supplement 8 to the generic environmental impact statement, because we rely on the findings of the generic environmental impact statement for part of our conclusions.

The report was issued as a draft, not because it is incomplete, but rather because we are in an intermediate stage in the decision-making process. We are in the middle of a comment period to allow you, and other members of the public, to take a look at the results and provide any comments you may have on the report.

After we gather these comments and evaluate them, we may decide to change portions of the environmental impact statement, based on the

comments. NRC will then issue a final environmental impact statement related to license renewal at McGuire.

Are there any questions?

FACILITATOR CAMERON: Any questions for Jim on the environmental review process?

(No response.)

FACILITATOR CAMERON: Okay. Let's go to the heart of the draft environmental impact statement, and this is Becky Harty.

MS. HARTY: Thank you. I wanted to tell you a little bit about our information gathering process, and the composition of the team, and then I'm going to talk a little bit about the analysis process, and step you through the report of the draft environmental impact statement.

As far as the information gathering process, Jim kind of discussed it in the previous slide. I'm going to show you this, because it kind of talks about it in a different perspective.

What we did is we looked at the license renewal application in considerable depth. This is the application that was sent in by Duke, by the licensee. Jim mentioned the Staff's site audit, which we did in September. We took the entire team out, and brought them out here, and we tramped through the woods, and looked at everything on the site.

We talked with federal, state, and local agencies, and we also talked to permitting authorities including the state office that handles the water discharge permits, and the state offices that handles the historic/cultural issues.

And we talked to social service local agencies, and we invited the public, as was mentioned previously, to provide comments. And all this was

wrapped together to produce the draft supplemental environmental impact statement.

This slide shows the team expertise. For the review we established a team that was made up of members of the NRC, as well as experts in various fields from National Laboratories. And this gives you an idea of the types of areas that we looked at, during our review.

Now, this document is called a supplemental environmental impact statement because it builds on information in the generic environmental impact statement for license renewal.

And that document, which is NUREG 1437, identifies 92 environmental issues that are evaluated for license renewal. Sixty-nine of these issues are considered generic, or Category 1, and you see the name Category 1 up there.

Which means that the impacts are the same for all reactors, or the same for all reactors with certain features, such as plants with cooling towers. For the other 23 issues, which are referred to as Category 2 issues, the NRC found that for these issues the impacts were not the same at all sites, or for all types of reactors, and therefore site-specific analysis was needed.

Only 83 of the 92 issues that were addressed in the generic environmental impact statement are applicable to McGuire, because of the design and the location of the plant.

For those generic Category 1 issues that are applicable to McGuire, we needed to assess if there was any new and significant information at McGuire that would cause us to need to reanalyze, or relook at the conclusions that were made in the generic environmental impact statement.

If the answer was no, then we adopted the conclusion in the GEIS. And if it was yes then we would go on to perform the site-specific analysis.

For the Category 2 site-specific issues that are related to McGuire, site-specific analysis was necessary. So that brings us to down here, to perform the site-specific analysis.

The other thing we looked at is if there were any potential new issues that were brought up, things that had not been discussed in the generic environmental impact statement, that maybe were brought to our attention either by the licensee, or through our analysis, or through comments from the public.

And if that was the case, and it was a validated new issue, site-specific analysis was performed. And if not, there would be no further analysis.

For each of the issues that were identified in the generic environmental impact statement, an impact level was assigned. And this is described in Chapter 1 of the report, which is the introduction.

These impact levels are consistent with the Council on Environmental Quality's Guidance for a NEPA analysis. Now, 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.

And I'm going to give you an example. For instance, at a plant like McGuire there may be, in the intake structure, a loss of adult and juvenile fish. If the loss of fish is so small that it cannot be detected in relation to the total population in Lake Norman, then the impact would be considered

small.

To be categorized as a moderate impact the -- we would have to show that the effect is sufficient to alter noticeably, but not to destabilize important attributes of the resource.

And back to the fish example, again. If the losses at the intake cause the population to decline, and then it stabilizes at a lower level, then the impact would be called moderate.

And for large, the effect must be clearly noticeable, and sufficient to destabilize important attributes of the resource. So if the losses at the intake cause the fish population to decline to the point where it cannot be stabilized, and it continues to decline, then we would say that impact was large.

That is the kind of information that was in Chapter 1 of the report. Chapter 2 we discussed the plant and the environment around the plant. And in Chapter 3 we briefly discussed that the licensee had not identified any plant refurbishment activities.

In Chapter 4, we looked at the potential environmental impacts for an additional 20 years of operation at the McGuire nuclear station. The issues that the team looked at, in Chapter 4, are things like cooling system impacts, transmission lines, radiological impacts, socioeconomics, groundwater use and quality, and impacts on threatened or endangered species.

I'm going to take just a few moments to highlight some specific areas of our review. And then if you have questions on other areas that we discussed in the document, or other findings, I will be glad to answer them, or one of the members of the team that we brought here could answer them, too.

One of the issues we looked at, closely, and discussed in some depth in Chapter 4, is the cooling system for the McGuire nuclear station. And here you see an aerial view of the station, there it is, right there.

This is Cowan's Ford dam, this is Lake Norman, this is the standby nuclear service water pond. There is a low level intake structure over here by the dam, an upper level intake structure here. This is the discharge canal, right in here.

During our site visit last September, and during our review of the information, we looked at Category 1 issues, which are those that I said previously were generic for all plants.

And we looked at the ones that were specific to the cooling system, and we did not identify any new or significant information, and nothing was brought up in the public meetings or in the scoping, that was new information.

So we went on to the Category 2 issues. And the Category 2 issues that are related to the cooling system that the team looked at, on a site-specific basis, include entrainment and impingement of fish and shellfish, heat shock, and also the potential for detrimental public health impacts from heat-loving microorganisms that might grow in the lake as a result of the plant, and the thermal discharges from the plant.

And in all cases the potential impacts that we saw were determined to be small, and there was no cases where we thought additional mitigation was required.

Now, radiological impacts are Category 1 issues, which are the generic issues. But because it is often a concern to the public, I wanted to

take some time to talk about these, and how we determine that there was no new and significant information related to radiological impacts.

During the site visit we looked at the effluent release and monitoring program, we looked at how the gaseous and liquid effluents were treated and released, and we also looked at how the solid waste was treated, packaged, and disposed of.

This information is included in Chapter 2. And we also looked at how the Applicant determines and demonstrates that they are in compliance with the regulations for release of radiological effluents.

This slide shows you the near and on-site locations that Duke uses, where they monitor primarily for airborne releases, and direct radiation. There are a number of sites off-site that also have monitoring stations, which also include locations for water, milk, fish, food products, and shoreline sediments, and samples those for radiological impact.

Our analysis showed that the releases from the plant, and the resulting off-site potential doses are not expected to increase on a year to year basis, during the 20 years of license renewal.

We found no new and significant information during our review, during the scoping process, and during our evaluation of other available information.

Now, the last issue I want to talk about for the -- that was evaluated in Chapter 4 of the draft supplement, is that of threatened and endangered species.

There are no federally listed aquatic species that occur on the McGuire site. The only federally or state listed threatened and endangered

aquatic specie that is in this area, that inhabits waters even near McGuire is this Carolina heelsplitter, which is a mussel.

But it is located down in Union County, which is southeast of the site. And it has not been found in the vicinity of the plant. And actually it prefers streams where there is water that is flowing, rather than impounded water, like what you find at Lake Norman.

There are three other sensitive species, or three other species of mussels that are considered sensitive in this area, but they were not found, or reported as being found in the southern quadrant of Lake Norman.

Now, bald eagles are known to nest at Lake Wylie, which is downstream from McGuire, and at Lake James, which is upstream. And they've been sighted flying down Lake Norman, but there are no nesting sites within 60 miles of the McGuire site.

And on the far side you see a flower, that is Schweinitz sunflower, it is endangered. And there is also another plant called the Georgia aster, which is a candidate species for listing, and they are found on adjacent property to the plant, but there are none on the plant site, or under the associated transmission lines right of ways.

So for all the issues that the team reviewed we found no new and significant information, either during the scoping process, which was brought up to us by the licensee, or by the staff and the team during their review.

We also looked at other issues like uranium fuel cycle, and solid waste management, and decommissioning. These are in Chapter 6 and Chapter 7 of the report, respectively.

And no new and significant information was identified for either of these issues, that had not previously been identified in the generic environmental impact statement.

We also evaluated the potential environmental impacts associated with McGuire not continuing operation. We needed to look at alternatives. We looked at the no-action alternative, which is a scenario where the NRC would not renew the operating licenses for the plant, and then when the plant ceases operation Duke would decommission the facility.

We also looked at new generation from coal fired, gas fired, new nuclear plants. We looked at purchased electric power, we looked at nine alternative technologies such as wind, solar, hydropower, fuel cells, municipal solid waste, other biomass derived fuels.

We looked at delayed retirement of other existing facilities, as well as utility sponsored conservation. And we looked at a combination of other alternatives.

And for each alternative we looked at whether the technologies could replace the baseload capacity of McGuire, and then we looked at whether there would be a feasible alternative to renewal.

And if there were a feasible alternative, and could replace the baseload capacity, then we looked at the same types of issues that we also looked for when we are doing the assessment of license renewal at McGuire.

Now, the preliminary conclusions for alternatives that are considered feasible is that these alternatives, including the no-action alternative, may have some alternative, some environmental effects in at least some impact categories that reach moderate or large significance.

And that is it for my presentation. So I will take any questions if there are any.

FACILITATOR CAMERON: Yes, we have a question in the back. Could I get this on the transcript, sir? If you could give us your name, please, for the transcript.

MR. COLLINS: My name is John Collins, I'm from the local paper here. I wanted to ask you why you skipped any presentation about the transmission lines, the Section 1.5?

MS. HARTY: Well, I was just trying to hit some of the highlights. We have, in the past, done the full thing, and it takes quite a while.

But let me, did you have specific questions on that?

MR. COLLINS: I do, yes. It has come up recently in Huntersville Board considerations because of an extension, a thoroughfare. Talking with a curator at the NC State University, I understand that the sunflowers are very a man-friendly plant that likes to seed environments.

And it does very well in and around transmission lines, because of all the upheaval in the soils. I also understand that most energy utility companies are using herbicides now along their transmission lines to keep back growth, rather than cut it.

How does that affect any possibility for the growth of Schweinitz's sunflower?

MS. HARTY: For this site the line is a very short transmission line area. It just goes across the road to the 525 and 230 KV switchyards. So in this case, for this plant, we were able to actually look at what was there. I mean, it was very easy to do, we are not talking hundreds of miles of right-of-

way that we had to look at.

So that was examined in depth. Now, these transmission lines do hook up to other lines that were, in one case we covered a lot of those lines for the Oconee plant.

I'm not sure that is getting exactly at the answer to your question.

MR. COLLINS: Is there anybody else from the --

MS. HARTY: Actually, maybe Charlie, do you want to handle that one?

FACILITATOR CAMERON: Charlie, do you have the --

MS. HARTY: This is Charlie Brandt, he is our terrestrial ecologist. So he was actually out there on the team, looking for sunflowers.

MR. BRANDT: Well, it kind of depends on the different levels of the question that you want answered.

First off, just for this plant what Becky said is correct, that the only aspect of the transmission line that is involved in this proposed action is that chunk between the plant itself and the switchyard. It is real short, and Chic Gaddy did a walk-through survey on that area, and did not identify any of those sunflowers, or any of the other sensitive plants in that zone.

You are correct that Schweinitz's sunflower does seem to favor, or at least maybe that is where people look for it, it seems to favor transmission lines.

And I can't speak in general for the transmission line maintenance practices throughout the Duke Power system. But, generally, the us of herbicide is going more and more into restricted use, rather than

broadcast use.

So, in other words, it is focused right on specific plants that are targeted, the trees that are going to grow too tall, rather than a broadcast herbicide.

That is another reason why a lot of these plants are found in right of ways, because of the maintenance program.

FACILITATOR CAMERON: Okay, thank you. And some of these issues that we hear during the question and answer also could be considered as comments, too.

In other words, take a more specific look at any of the issues raised by a question that John had. Are there other questions or comments on the preliminary findings?

(No response.)

FACILITATOR CAMERON: Okay. Thank you, very much, Becky.

Now we are going to go to another aspect, another section of the environmental review. And this is accident mitigation, and we have Bob Palla with us. Bob?

MR. PALLA: I'm Bob Palla with the Probabilistic Safety Assessment Branch of the office of nuclear reactor regulation.

And I wanted to talk tonight about the analysis that we have done, referred to as the severe accident mitigation analysis. Briefly I just wanted to mention that within the generic environmental impact statement, within Section 5.1 is some discussion about design basis accidents, and severe accidents.

In the generic EIS, the Commission found that probabilistic weighted consequences of severe accidents are small for all plants. And the Staff as, part of the review of McGuire did not review any, did not identify any significant new information with regard to the consequences from severe accidents.

And, therefore, the Staff concludes that there are no impacts of severe accidents beyond those that are already addressed in the generic environmental impact statement.

However, with regard to SAMAs, in accordance with the license renewal regulations, alternatives to mitigate severe accidents must be considered for all plants where schedule analysis have not been previously performed.

In other words, this is one of the Category 2 issues that Becky just alluded to, that we look at on a plant-specific basis. And this plant-specific analysis is provided in Section 5.2 of the generic environmental impact supplement, Supplement 8, that concerns McGuire.

Just as background, this evaluation is to ensure that changes that have the potential to improve safety performance of the plant, in particular reduce the likelihood of severe accidents, or reduce the consequences of a severe accident, should one occur.

The objective is to identify potential improvements that would be cost-beneficial. The scope of these improvements include hardware changes, procedure improvements, training program improvements.

And we looked, both, at modifications that could either prevent core damage, or mitigate the consequences. So we are looking at the

full scope of potential changes.

And just as quick background for the nature of the analysis that is done, it is a multi-step process. It begins with characterization of the overall plant risk, and what that risk is comprised of.

It makes heavy use the of plant-specific risk study. This risk study identifies the combinations of failures that are needed to permit an accident to progress to core damage, or to containment failure.

So we use that study to help focus our search for potential improvements. After looking at where the risk is coming from, this suggests potential ways that the risk could be reduced.

And then the next step would be to quantify the risk reduction potential for each improvement, and estimate the costs that are associated with implementing that improvement, should the decision be made to do that.

And then, finally, we have NRC guidance on performing regulatory analysis that provides a methodology that one could use to translate risk reduction and cost estimates into similar terms that one could make a prudent choice.

You could basically convert risk reduction into dollars, and then compare dollars to implementation costs. And the decision criteria that we look for is whether a potential improvement would be cost-beneficial, whether it provides a significant reduction in total risk.

And in, the case of license renewal, we look to see if these improvements relate to aging effects that would occur during the period of extended operation, since the focus of this action is renewal, we are looking at things that would be impacted by renewal. And we look at the aging effects in

particular.

A quick summary of the results of the SAMA analysis. The study focused on 15 candidate improvements, seven of these relate to reducing the core damage frequency, or preventing severe accidents.

The other 8 related to improving the performance of the containment. In addition there was an assessment made of the potential to run a dedicated line from the Cowan's Ford hydrostation to the McGuire plant.

This was actually comprised of a preventive SAMA. So, really, eight different SAMAs were considered for preventing core damage.

The conclusions of the cost benefit analysis was that, I will say, Duke concluded that none of these improvements were cost-beneficial. But the Staff, based on its review of the information, concluded that one SAMA was potentially cost-beneficial.

And this SAMA dealt with providing a backup power supply to the hydrogen ignition system. The hydrogen system is AC-dependent. In a station blackout the system is not available, and a station blackout comprises a substantial fraction of the core damage frequency.

So we looked at that improvement as an improvement that would improve the containment performance during station blackout accidents.

We found, and there are certain assumptions that this would be true, but we found that powering the igniters and fans can be cost-beneficial if the containment response in a station blackout is modeled consistent with a recent Sandia study.

Now, Sandia looked at a severe accident issue called direct containment heating, and found that the containment had a fairly high failure

frequency in those events.

And if you take those conditional failure probabilities and plug them into the Duke PRA, it appeared that a SAMA that would involve power to the igniters, and to the backup fans, would be cost-beneficial.

There is a second variation on that that might also be beneficial, specifically it is not clear that the air return fans also need to be powered from a backup source. And if it is not necessary, the cost of that fix goes down, and it becomes cost-beneficial.

So even if you use the Duke PRA estimates, it would appear to be cost-beneficial if it is found that only the igniters need to be provided by backup power.

I want to point out that this improvement is not aging-related, and also that we have a generic safety issue already identified at the Nuclear Regulatory Commission where potential improvements to hydrogen control systems are already being looked at for ice condenser plants, and Mark 3 containments.

So we do not require that anything be done as part of license renewal, but are pursuing this improvement as part of current operating license issue, under that generic safety issue.

And so the overall conclusion is that additional plant modifications to further mitigate, or prevent severe accidents are not required at McGuire, as part of license renewal, pursuant to the regulation 10CFR Part 54.

However, improvements to the hydrogen control are being further evaluated as a current operating license issue, as I mentioned. This is

Generic Safety Issue 189.

If you have any questions?

FACILITATOR CAMERON: Thank you, Bob. Any questions on the severe accident portion? Mr. Mahood, here you are.

MR. MAHOOD: Thank you. In reading the bits about cost benefits, which are dispersed throughout the paper that I received, the document here, I was a little bit puzzled by the definition of benefit.

Reading over it, it seemed that if you want to be totally cynical about it, benefit would be the protection of the public's health and safety, whereas the cost would be what it would cost Duke if the balance to the public health and safety exceeded a certain point.

And since Duke is ensured by the Price-Anderson Act, and has a cap on its liabilities, that definitely lowers Duke's cost a great deal, although the impact on the public health and safety might be considerable.

And so that if you look at it as sort of a suspicious way, which is the way I think that the informed public should look at just about everything, it seems to be saying that as long as the damages that the power company would have to pay don't exceed the cost of preventing any damage to the public, then it is better to avoid, well, it is better for the bottom line, simply not to spend the extra money to protect the public.

That is one impression one could gain from this, and correct me if I'm wrong.

MR. PALLA: Well, let me try to clarify that. To begin with the methodology is a well-developed and -reviewed methodology, and it has been in use for many years.

Now, I can understand being skeptical about what assumptions go into this. My understanding of it is that insurance, even though Duke has insurance against accidents, do not come into play in this analysis.

So they do not get credit for insurance. The cost of an accident is treated as a societal cost, that society has to pay. Even if they were insured, someone has to pay that. That is the concept there.

So insurance is not a factor. And, similarly, damage to the public, the health effects, these are all, if you can avert them, these are all benefits.

So if you can keep the plant online you actually don't need replacement power, so replacement power comes into play. That would be, you can avert an accident. That is another thing in your favor.

But the insurance doesn't get any weight in this analysis, it can't be used as far as doing this analysis.

MR. MAHOOD: I'm sorry, but we are in kind of --

FACILITATOR CAMERON: Let's get you in the transcript, Mr. Mahood.

MR. MAHOOD: I'm sorry, but we seem to be in a little bit of a semantic muddle here, because I'm speaking of the cost, I thought that in the document cost referred to the cost to the nuclear industry to do what is necessary to protect the public.

And the benefit is the protection of the public, and you are speaking of the cost to the public, so we are getting a little --

MR. PALLA: Well, let me try to --

MR. MAHOOD: -- muddled here, because I'm talking about

the cost of protecting the public, the cost of --

MR. PALLA: The cost in this analysis is the cost to implement the fix, the improvement. The benefit is all of these risk elements that you can avert.

So we are weighing the cost to implement this thing against the savings you get by not exposing the public to risk, by not losing the plant, and having to have replacement power. All of these outside costs related to cleaning up, there are off-site costs related to property damage.

These all, I know it may be confusing, but all of these costs get counted, you add them up and you compare them to the cost of implementing this thing.

So all of these different things that you avert are all collected on the same side of the equation, and then summed up and compared to the cost of the enhancement.

FACILITATOR CAMERON: So when we use the term cost benefit either specifically in the SAMA evaluation, or cost benefit generally in the environmental impact statement context, it may have a very specific and narrower meaning than some of the broader costs and benefits that Mr. Mahood is referring to?

MR. PALLA: Yes. Maybe the confusion comes from the fact that we basically add up these other costs, and then we label them as benefits. But we compare the cost of the fix to make this improvement, and then here are all these other averted costs which we count as a benefit of putting the fix in.

And we basically look at that balance between the cost of making the improvement versus all of the benefits that you would reap from

reducing the risk.

FACILITATOR CAMERON: Does anybody else from -- thank you, Bob, for that. I think that helps. I just wondered if anybody else from the NRC team wanted to talk to how the term cost benefit is used in the environmental impact statement process?

(No response.)

FACILITATOR CAMERON: I would just say that after we are done tonight perhaps we could talk a little bit more with Mr. Mahood, in person, about that.

Are there any other questions on this particular aspect? Yes, sir?

MR. KNOX: Good evening, my name is Gary Knox, I'm a resident of Cornelius, and have been fortunate enough to be part of this community for a long, long time.

Looking at the application, the CFR Part 54, or Section 10, whatever, the renewal application process began prior to September 11th. Is there a supplement to this report as it relates to new findings, new information?

I see in here request for additional information subsequent to September 11th. And that would be my question.

MR. PALLA: I am probably not the best person to answer this. I think it goes to the scope of what is included in this, but I don't know if --

FACILITATOR CAMERON: Let me just see if we can get a little bit of clarification. Are you specifically concerned about security terrorism considerations?

MR. KNOX: I would not ever dramatize that element, as

much as I would if you look at the conclusion, and read it verbatim, it says that additional plant improvements to further mitigate severe accidents are not required at McGuire units, etcetera, as part of the license renewal pursuant to.

I'm assuming those guidelines were written prior to September 11th, the application process started since then, I think we live in a new world. My question is, is this conclusion, or its draft, been amended or changed since that day?

MR. PALLA: It has not been. This conclusion is based on existing regulations. And these other security concerns are being addressed in a separate action, and haven't been brought back into this process.

MR. KNOX: There are additional findings, and the request for additional information will not be, I'm assuming that supplement, whenever it is going to appear, would be available to the public, as part of the application?

FACILITATOR CAMERON: This is Rani Franovich.

MS. FRANOVICH: Let me try to address your question. You are concerned about the implications of the events of September 11th. And what the Staff is looking at is the same concern you have, which is really a current issue, it is not unique to the extended operation.

So the Staff is evaluating actions that need to be taken by the industry to address those concerns right now. So this is not a license renewal issue, it is a current issue that we are addressing via a separate process, under 10CFR Part 50.

FACILITATOR CAMERON: So, in other words, like any plant, whether they are under license renewal or not, is going to have to meet whatever comes out of the new evaluation?

MS. FRANOVICH: Precisely.

MR. KNOX: I think you did answer my question, the events of September 11th are not part of the renewal license application?

MS. FRANOVICH: Correct. And as Jim indicated, the concern you have applies to all nuclear power plants, regardless of whether they are pursuing renewal, or not. So that is why we are pursuing it now.

MR. KNOX: I understand. I may not be satisfied with the answer, but I understand.

MS. FRANOVICH: I think we are still trying to get our arms around the answer.

MR. KNOX: I understand.

FACILITATOR CAMERON: And, again, that may be one of those issues that perhaps we could talk to this gentleman after the meeting.

But, John, do you want to add anything?

MR. TAPPERT: Yes, just a couple of things. I don't want you to have the impression that the absence of us addressing this as part of license renewal process means we are not looking at safeguard issues in general.

The Commission, and the whole federal government, has been mobilized since September 11th to address homeland security issues, and the Commission has done a number of things to address that issue.

We've created a whole new organization in our agency just to look at safeguards issues. The Commission has ordered a top-to-bottom review, a complete look at all the safety requirements.

And while we are performing that assessment we've also issued orders to each and every power plant, including McGuire, to implement

interim compensatory measures to address security concerns.

So the fact that it is not a license renewal issue means that we don't want to wait 20 years to address it. It doesn't mean that the Commission doesn't take these issues seriously, and has taken serious steps to take them on.

MR. KNOX: My question is, I would like to separate -- the security issues I believe, are separate and prudent from relative to whether or not improvements for security and severe accident mitigation need to be addressed.

Apparently you are saying that because we have the current regulations they don't need to be addressed? Security needs to be addressed, but I think it would be my opinion that we should be leery as opposed to --

MS. FRANOVICH: I think what the answer to your question is, is that severe accidents, within the context of license renewal, do not involve terrorist threats.

However, there are, of course, those implications outside of license renewal. That as John Tappert indicated, the Staff, the Commission, and the federal government, is in the process of addressing this. Does that answer your question?

MR. KNOX: It does.

FACILITATOR CAMERON: Thank you.

MR. KNOX: Thank you very much.

FACILITATOR CAMERON: All right, any other questions for Bob Palla?

(No response.)

FACILITATOR CAMERON: Okay. We are going to have Jim Wilson come up now and tell us what the overall conclusion is.

MR. WILSON: To summarize, the impacts of license renewal at McGuire are small for all impact areas. The impacts of the alternatives to license renewal range from small to large.

Therefore, the Staff's preliminary conclusion is that the impacts of license renewal at McGuire are acceptable from an environmental standpoint.

A quick recap of current status... We issued the draft Supplement 8, the generic environmental impact statement for McGuire. We are currently in the middle of a public comment period that extends until August 2nd.

This is an opportunity for members of the public to provide us with input, and their comments on the draft that was just issued.

We expect to address public comments, and make any necessary revisions to the draft environmental impact statement for the license renewal at McGuire, and issue a final environmental impact statement in January of 2003.

This slide is to provide information on how to access the draft environmental impact statement for McGuire. You can contact me directly at the phone number provided, I will send you a copy.

There are a number of copies out in the lobby, you can pick one up on your way out. In addition the Jane Murray Atkins library at the University of North Carolina, at Charlotte, has copies for you to look at, and the document is available on the web at the address given.

The last slide gives details on how to submit comments on the draft McGuire environmental impact statement. As I said before, we will be accepting comments until the 2nd of August, and you can submit comments either electronically through the email address here, you can send it to the address given to the Rules and Records branch, or you can hand carry them to Rockville, and present them in person.

Chip, anything else?

FACILITATOR CAMERON: Well, I think it might be useful, everybody, and to complete the circle from where we started with Rani Franovich, in terms of the safety side. Jim, if you could just tell us a little bit about what happens with that environmental impact statement once it is done, we get the comments in, what happens after it is finalized?

And, also, if we get issues, it may be a security issue, it may be some other type of issue, it may be an issue that applies to the safety side, issues that aren't within the scope, that we decide that this isn't within the scope of the environmental impact statement, how can we -- what do we say to assure the public that those issues are just not lost, those issues go into either the safety part of the process, or they go to some other part of the NRC process, generally?

Can you just comment a little bit on that?

MR. WILSON: I think I heard a couple of different questions.

FACILITATOR CAMERON: Yes, there is a bunch of different questions there.

MR. WILSON: Well, what happens to the environmental impact statement...

FACILITATOR CAMERON: All right.

MR. WILSON: First of all, at the end of the comment period, we will box up all the comments and address them to see if changes need to be made to the draft environmental impact statement, and if so, make those changes and issue the final document in January 2003.

Following that there is a 30-day review by EPA and the CEQ, and then the environmental impact statement will become one of work products of the Staff, and other parts of the commission, and it will be available to the Commission for making their decision.

In addition to the environmental impact statement, Rani will be preparing a safety evaluation report to look at the safety aspects of the license renewal. The regional headquarters group, and the residents, will be looking at inspection issues associated with license renewal.

And, finally, the Commission's own experts, the ACRS, the Advisory Committee on Reactor Safeguard will be evaluating the work. All four of these things, one of which is the environmental impact statement, will be taken into consideration by the Commission in making a decision on license renewal at McGuire.

If we get comments from members of the public or from other agencies that are outside of the scope of the environmental review, we would refer them to... we aren't going to just ignore them. If it is not part of the environmental review for license renewal, I can think of four different programs where we might have to hand them off.

If it is a safety issue associated with license renewal, we refer it to Rani, and bring it to her attention, so it doesn't get lost. If it is a current

operating issue, like emergency preparedness, or some of the safeguards issues, or something else, we refer it to the operating reactor project manager.

And finally, if it is an inspection issue, or something, the region would be charged with oversight, we would refer it to either the resident inspector or the regional office.

FACILITATOR CAMERON: Okay, great. Thank you. And as Jim noted, there is a project manager for each operating reactor, including McGuire.

Any other questions for Jim before we go to more formal comment from all of you? Mr. Mahood?

MR. MAHOOD: Sorry, but I do have one. Suppose the week after next, or the month after next, the new National Security Agency, or whatever they call themselves, were to impose new NRC regulations taking post-9/11 into account.

Would this process go on just as before, or on the same schedule, or would the whole thing sort of start over again?

FACILITATOR CAMERON: John, do you want to try that?

MR. TAPPERT: Yes. If the Commission may very well issue additional regulations addressing security issues in response to the 9/11 attacks, those will be taken on a plant by plant basis, for all 103 operating reactors, irrespective of which ones are at license renewal, or not.

So the short answer is that this process will continue as it is, because this is addressing an extension issue, and an additional 20 years. The safeguards issues are today issues, and will be addressed today by all the operating reactors.

FACILITATOR CAMERON: I think it is probably hard to speculate on what exactly the result would be. I suppose it is conceivable that new regulations would say, well, let's take a look back, a careful look at license renewal, or something like that.

I mean, it is hard to say what would happen. But thank you, John.

Okay. Let's go to you for some more formal comment at this point. And we are going to hear first from Duke Energy Corporation, hear about the rationale for license renewal process, some of the vision behind that, and we are going to ask Mr. Brew Barron, who is the site vice president for the McGuire station, to come up and say a few words to us.

MR. BARRON: Thank you, Chip, thank you for the opportunity. I just have a few short remarks, if I may.

I really want to start off by giving some recognition to the hard working employees at McGuire, and throughout Duke Energy, that do work at McGuire. Over the past 21 years, it is their hard work, dedication, and contributions, that have made McGuire the safe, reliable, and world-class operating nuclear power plant that it is today.

They are the folks that have done the hard work, that have achieved the great results, and really deserve all the credit. I would also like to thank the NRC, the Agency has defined and codified, and implemented a license renewal process which is both thorough and predictable.

Reading through the results of the draft environmental impact statement, the thoroughness, the completeness with which the Staff and the contractors have performed their work is very apparent.

But, just as importantly, they've completed that work on or ahead of their initial estimated schedule on that. And from a business standpoint, our ability to make timely and informed business decisions, that is also very important to us.

And the Agency, both the Commission themselves, and the Staff, are to be commended on their very good work in that area.

We are still reviewing the draft EIS. Initially it looks like we very much agree with the conclusions that have been reached. We do have our technical experts continuing to go through the report.

And any comments that we have we will provide in writing, and we will provide them on or before the requested date of August 2nd.

I guess the last group I would like to address is our neighbors, the community. We appreciate the support that we've gotten at the facility over the past 21 years of operation.

Being a good neighbor is very important to us at McGuire. The actions that we take to ensure that the plant is operated safely, that it is a reliable source of economical power to our customers is extremely important to us, and every decision we make, day in and day out, takes into account whatever we can do to minimize the environmental impact, any impact that we would have on the safety of the community around us.

I thank the community for their support, and again thanks for the opportunity to get up and speak.

FACILITATOR CAMERON: Thank you, Brew. Next I'm going to ask Mr. Robert Mahood to come up. Mr. Mahood, would you like to say a few words to us?

MR. MAHOOD: Thank you. I feel that both the people at Duke Power, and the people that work at NRC are in a very difficult position right now, because they are still having to deal with all these questions on the pre-9/11 regulations.

And although your document says repeatedly there is no new information about most of the issues here, about safety, and these are mostly about the operational requirements, and that sort of thing, I do feel that there are now new circumstances.

One of the new circumstances is the enormous population explosion that is taking place around here, and which is ongoing. So that instead of a few thousand people around the plant, living around the plant when the plant was first licensed, we now have hundreds of thousands of people living around both the McGuire and Catawba plants.

And the evacuation possibilities have increased enormously because there has been much improvement in the roads around here. And I expect that some of our visitors from Washington may have been caught in a traffic jam or two between this afternoon's meeting and this evening's, so you know what I'm talking about.

If I were an Al Qaeda operative I would make sure that there were a couple of accidents on I77, just to ensure that nobody got away expeditiously.

The thinking of local branch of FEMA, which is the Mecklenburg emergency management office, is clearly, I have quotations on this from Mr. Broome, who is in charge of the office, via the television, that they are thinking in pre-9/11 terms.

He says that, yes, we could probably evacuate everybody in less than six hours, assuming that we already cleared the lakes, we've already cleared the schools, we've already cleared all the business offices.

Well, now you are talking about a long time. After hearing that I called the Charlotte Mecklenburg schools, and asked them how long, they gave me their safety officer, and he said, it would take about an hour and a half, an hour to an hour and a half to get all the kids evacuated.

I couldn't understand that, because it takes hours, and hours, and hours, to get the kids to school, in three different shifts on the buses, plus parents driving them, and so on.

And it turned out, well, he was only thinking in terms of evacuating a ten-mile radius. Well, if a plane is driven into the spent fuel containment areas, there isn't going to be hours and hours to evacuate. We are going to have to get out immediately, the sooner the better, five minutes would be ideal.

But I think that communities need to start passing ordinances that say you can't build any more houses, and bring any more people into harm's way, if you can't get out in at least two hours from the evacuation zone, whether it be a ten-mile radius, or a 25-mile radius, or 50-mile radius.

That is something that we haven't heard about, really. If a plane crashed into the spent fuel pools and casks which contain 20, or 30, or 40, or 50 times as much radioactive material as is actually contained inside these domes, which are highly touted for being so well fortified.

The other point I would like to make is that it may well not be any funny looking guy with a beard, and a big nose, and a strange name like

Kai Al Hicby, or something like that, who does the job.

There have already been precedents. An Egyptian pilot probably deliberately drove a plane full of passengers into the ocean. A Chinese pilot probably deliberately drove his plane into the ground with all passengers on board.

There are 800 people, about five, who are seriously disturbed. And some of them can be airline pilots, or Air Force pilots, Coast Guard pilots, and so on. So the person who actually does this thing may well be American, is not suspected by anybody, with an ordinary name like John Wayne.

And everyone will say, afterwards, he seemed like such a nice, straight-forward, reliable guy, with a good work record, and everything.

We need to be prepared against that type of thing. And I would like to see some visible preparation. I would like to see them starting to lay down very thick concrete above all of the spent fuel depositories, as soon as possible.

I would also like to see something visible in the way of protection of the nuclear plants, such as the balloons that we used in World War II to protect London against the Nazi planes, only these will have to be anchored at 9,000 feet, and 5,000, and 12,000, they only need to be anchored at maybe 500 feet or less, 300 feet, maybe.

So it shouldn't be expensive at all, and it would be a visible sign to the public that something, something is being done against this threat. It would also be a sign to the crazy guy in the airplane, that this is not such a good target.

Right now we are making this area into a better and juicier,

and juicier, and juicier target, by selling more and more subdivisions to people, crowding them into the areas around here.

And we are talking about a license renewal 20 years from now, to go on for another 20 years. What do you think it is going to look like around here 20 years from now, if we just go on building, and building, and building?

And what is it going to look like 30 years from now, when there is still ten years to go? We need to do something visible, and tangible, to avert a tragedy in this area. Thank you very much.

FACILITATOR CAMERON: Thank you, Mr. Mahood.

And anybody else, comment, any questions, before we break up tonight? Again, the NRC staff and our experts will be here. I was glad that we had a chance, at least, for one of them to expound on their area of expertise. But we do have others here.

I would just thank all of you for taking the time out of your evening to come down and to share your comments, and concerns with us.

And John, do you have anything you want to add at this point? Well, then we are adjourned for the evening, thank you all.

(Whereupon, at 8:30 p.m., the above-entitled matter was concluded.)

Preliminary Results of Environmental Review McGuire Units 1 and 2

Nuclear Regulatory Commission
June 12, 2002

Purpose of Today's Meeting

- Discuss NRC's license renewal process
- Describe the environmental review process
- Discuss the results of our review
- Provide the review schedule
- Accept any comments you may have today
- Describe how to submit comments

McGuire Units 1 and 2 License Renewal

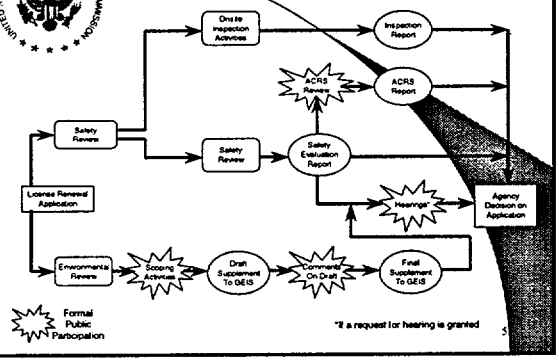
- Operating licenses expire in 2021 (Unit 1) and 2023 (Unit 2)
- Application requests authorization to operate units for up to an additional 20 years

NRC's License Renewal Review

- Safety review
- Environmental review
- Plant inspections
- Advisory Committee on Reactor Safeguards (ACRS)

4

License Renewal Process



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National Environmental Policy Act

- NEPA requires Federal agencies to use a systematic approach to consider environmental impacts
- Commission has determined that an environmental impact statement (EIS) will be prepared for a license renewal action

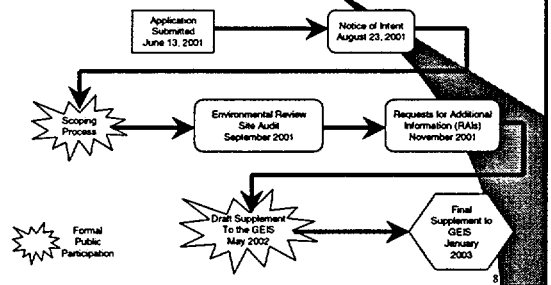
6

Decision Standard for Environmental Review

To determine whether or not the adverse environmental impacts of license renewal for McGuire Units 1 and 2, are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.

7

Environmental License Renewal Process



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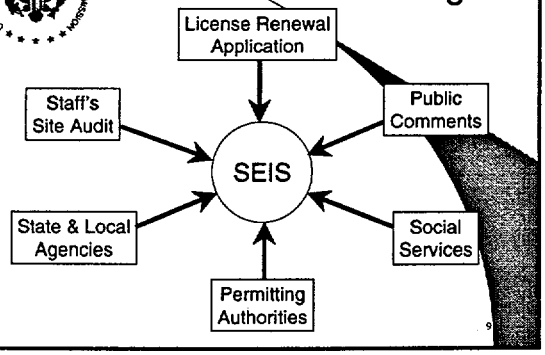
Information Gathering



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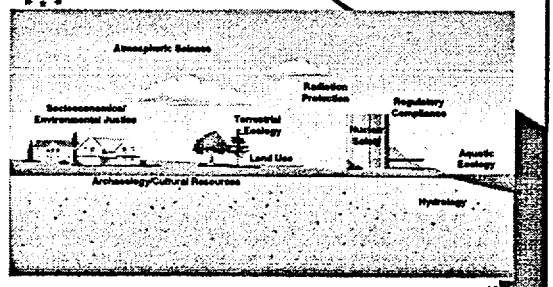
Team Expertise



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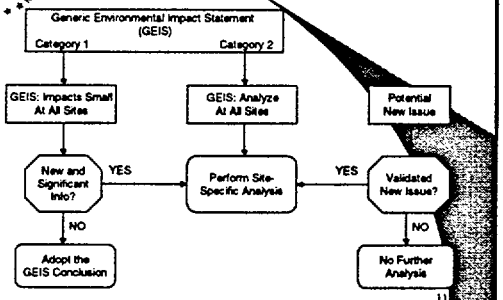
Analysis Approach



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How Impacts are Quantified

- NRC-defined impact levels:
  - SMALL: *Effect is not detectable or too small to destabilize or noticeably alter any important attribute of the resource*
  - MODERATE: *Effect is sufficient to alter noticeably, but not destabilize important attributes of the resource*
  - LARGE: *Effect is clearly noticeable and sufficient to destabilize important attributes of the resource*
- Consistent with the Council on Environmental Quality guidance for NEPA analyses

12

Environmental Impacts of Operation

- Cooling System
- Transmission Lines
- Radiological
- Socioeconomic
- Groundwater Use and Quality
- Threatened or Endangered Species

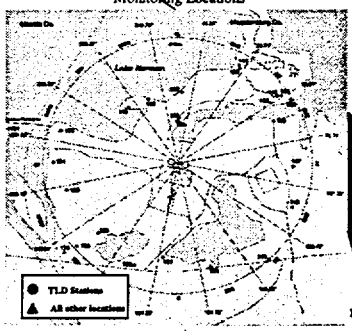
13

Cooling System Impacts

14

Radiological Impacts

McGuire Near-Site and On-Site Radiological Monitoring Locations



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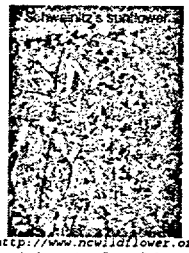
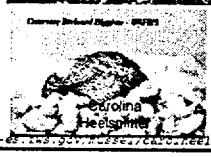
Threatened or Endangered Species



(http://www.newildflower.org/piedmont/oct7/oct7.htm)



(http://nc-es.fws.gov/mussels/caro_heel.html)

16

Potential New and Significant Information

- No new and significant information identified:
  - during scoping
  - by the licensee
  - by the staff

17

Other Environmental Impacts Evaluated

- Uranium Fuel Cycle and Solid Waste Management
- Decommissioning

18

Alternatives

- No-action
- New generation
- Purchased electrical power
- Alternative technologies
- Combination of alternatives

19

Preliminary Conclusions for Alternatives

- Alternatives (including the no-action alternative) may have environmental effects in at least some impact categories that reach MODERATE or LARGE significance

20

Preliminary Results of Analysis

- Design-Basis Accidents
- Severe Accidents
  - Severe Accident Mitigation Alternatives (SAMAs)

21

Preliminary Results of SAMA Evaluation

- 15 candidate improvements evaluated
  - 7 related to reducing core damage frequency
  - 8 related to improving containment performance
- One SAMA (providing backup power to hydrogen igniters) found to be cost beneficial, but does not relate to managing the effects of aging
  - NRC is evaluating the need for this enhancement as a current operating license issue
- None of the remaining candidates were found to be cost beneficial

22

Preliminary Results of SAMA Evaluation (continued)

- Overall Conclusion:
- Additional plant improvements to further mitigate severe accidents are not required at McGuire Units 1 and 2 as part of license renewal pursuant to 10 CFR Part 54
- Improvements to hydrogen control being further evaluated as a current operating license issue

23

Conclusion

- Impacts of license renewal are SMALL for all impact areas
- Impacts of alternatives to license renewal range from SMALL to LARGE
- The staff's preliminary recommendation is that the adverse environmental impacts of license renewal for McGuire Units 1 and 2 are not so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable

24

Environmental Review Milestones

- Draft EIS issued – 5/6/02
- Comment period – 5/17/02 to 8/2/02
- Final EIS issued – 1/03

25

Point of Contact

- Agency point of contact:
  James H. Wilson
  (800) 368-5642, Ext. 1108
- Documents located at the J. Murrey Atkins Library, University of North Carolina – Charlotte, and can be viewed at the NRC's Web site (www.nrc.gov)
- Draft SEIS can also be viewed at: www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1437/supplement8/

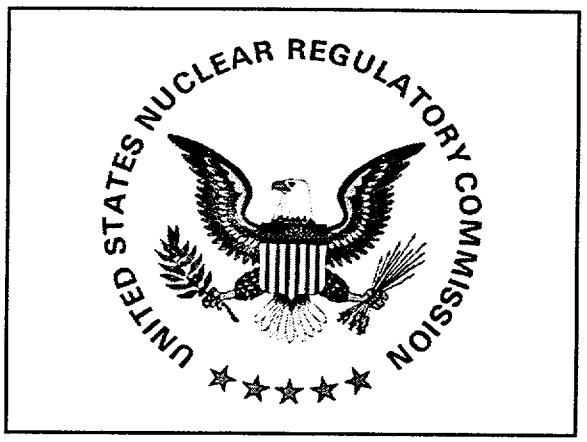
26

NRC Addresses

Provide comments:

- By mail at: Chief, Rules and Directives Branch
  Division of Administrative Services
  Mailstop T-6D59
  U.S. Nuclear Regulatory Commission
- In person at: 11545 Rockville Pike
  Rockville, Maryland
- E-mail at: McGuireEIS@nrc.gov
- On-line comment form with web version of draft

27


UNITED STATES NUCLEAR REGULATORY COMMISSION