

UNITED STATES OF AMERICA

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NUCLEAR REGULATORY COMMISSION

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DRAFT ENVIRONMENTAL IMPACT STATEMENT  
FOR  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

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LICENSE RENEWAL APPLICATION

THURSDAY

MARCH 3, 2005

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MISHICOT, WISCONSIN

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The Draft Environmental Impact Statement  
Session met at Fox Hills, 250 West Church St.,  
Mishicot, Wisconsin at 1:30 p.m., Francis Cameron  
facilitating.

PRESENT:

FRANCIS CAMERON, Facilitator  
ANDREW KUGLER, Section Chief  
STACEY IMBODEN, Project Manager  
PAUL SCHUMANN, Team Leader  
RICHARD EMCH, Backup Project Manager

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P R O C E E D I N G S

(1:30 P.M.)

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3 MR. CAMERON: Good afternoon, everyone. My name is Chip  
4 Cameron, I'm the Special Counsel for Public Liaison at the Nuclear  
5 Regulatory Commission, the NRC as we'll be referring to it this  
6 afternoon. And I just want to welcome all of you to our public  
7 meeting, your public meeting and our public meeting. And the subject  
8 today is the Draft Environmental Impact Statement that the NRC has  
9 prepared to assist it in it's evaluation of an application that we  
10 received from the Nuclear Management Company to renew the licenses to  
11 operate the Point Beach Units 1 and 2 reactors. And it's my pleasure  
12 to serve as your facilitator for today's meeting, and in that role  
13 I'll try to help all of you to have a productive meeting.

14 I just wanted to cover a few things on meeting process  
15 before we get into the substance of our discussions this afternoon.  
16 I'd like to tell you a little bit about the format for the meeting,  
17 the ground rules for the meeting, and to introduce the NRC speakers  
18 who are going to be talking to you this afternoon.

19 In terms of format, it's a two-part meeting, and those  
20 parts of the meeting that are objectives for the meeting. The first  
21 part is to give you information about the NRC's license renewal  
22 process, what do we look at in evaluating whether to grant the license  
23 renewal. And we'll be giving you information on the process  
24 generally, but more specifically we're going to tell you about the  
25 analysis and findings that are in the Draft Environmental Impact

1 Statement that we've prepared on this license renewal application.

2 And we'll have some brief NRC presentations then we'll go on to you to  
3 see if you have any questions on these presentations and we'll try our  
4 best to answer your questions and get you the information you need.

5 The second part of the meeting is an opportunity for us  
6 to listen to you, to your advice, your recommendations, your comments,  
7 concerns on what's in the Draft Environmental Impact Statement and on  
8 license renewal and in general. And I would emphasize the word draft.  
9 This is not going to be finalized. This is Draft Environmental Impact  
10 Statement until we evaluate all the comments that we hear from you  
11 today and written comments that we have received. The staff will be  
12 telling you a little bit more about how to submit written comments and  
13 the date for doing so. But I just want to assure you that anything  
14 that you say this afternoon will carry the same weight as a written  
15 comment.

16 In terms of ground rules, they're very simple. If you  
17 have a question after the various NRC presentations, and we won't make  
18 you sit through all of them before we go out to you, we'll do a couple  
19 on, for example, process and then go out to you for questions. And  
20 then we'll hear about the Draft Environmental Impact Statement and go  
21 out to you for questions. But if you have a question, just signal me  
22 and I'll bring you this cordless microphone, and if you could just  
23 introduce yourself to us as well as any affiliation if that's  
24 appropriate.

25 I would ask that only one person speak at a time. We

1 have Mr. LeGrand who is taking a transcript for us tonight and one  
2 person at a time will help him to get a clear transcript. But more  
3 importantly, we'll be able to give our full attention to whomever has  
4 the microphone at the moment. And I don't think this is going to be a  
5 problem today because I don't think we'll be pressed for time. But if  
6 you could try to be concise in your comments and questions, that will  
7 make sure that everybody who wants to has an opportunity to speak.

8 In terms of the NRC staff who are going to be talking to  
9 you, we're going to have a welcome first from Mr. Andy Kugler who is  
10 right here. And Andy is the Chief of the Environmental Review Section  
11 within the License Renewal and Environmental Impact Program at the  
12 Nuclear Regulatory Commission. It's in our Office of Nuclear Reactor  
13 Regulation. Andy and his staff have the responsibilities for doing  
14 the environmental analyses for any type of reactor licensing issue,  
15 whether it's license renewal such as that involved here or whether,  
16 for example, an early site permit that we have received from a few  
17 companies. But that's what Andy and his staff specialize in.

18 He has been with the NRC for approximately 14 years and  
19 it's seeming longer all the time probably. But Andy was in the Naval  
20 Nuclear Program before joining the NRC. He's also worked for nuclear  
21 utility private sector. He has a Bachelor's degree in Mechanical  
22 Engineering from Cooper Union in Manhattan, and a Master's in  
23 Technical Management from Johns Hopkins University.

24 And after Andy gives you a welcome and an overview  
25 perspective on license renewal generally, we're going to go to Stacey

1 Imboden who is right here. Stacey is the Project Manager for the  
2 Environmental Review on the Point Beach License Renewal Application.  
3 And she is going to tell you about what the environmental review  
4 process entails. She's been with us for about three years now doing  
5 environmental project management work. She has a Bachelor's in  
6 Meteorology from Penn State University and a Master's in Environmental  
7 Engineering from Clemson University.

8 After Andy and Stacey talk, we'll go through questions,  
9 and then we're going to go to the heart of the discussion today which  
10 is the Draft Environmental Impact Statement. And we have Dr. Paul  
11 Schumann with us who is going to talk to that. Paul is the Team  
12 Leader of a group of experts that the NRC has assisting us in  
13 preparing this Draft Environmental Impact Statement. And Paul is from  
14 Los Alamos National Lab. He's an environmental engineer. He's in  
15 charge of regulatory compliance for all the lab activities at Los  
16 Alamos. He has a Doctorate in Environmental Science and Engineering  
17 from UCLA. And then we'll go on to you for questions.

18 We do have what I like to call a short subject which is  
19 severe accident mitigation alternatives or SAMAs as they are  
20 affectionately known. And we have Mr. Rich Emch from the NRC. With  
21 this, he's going to tell you about the SAMA analysis in the Draft  
22 Environmental Impact Statement. And Rich has been with us 30 years  
23 now at the NRC. He has done a wide variety of things including being  
24 the project manager on environmental reviews for license renewal  
25 applications. He has been involved in accident analysis and emergency

1 planning and preparation issues. His Bachelor's degree is from  
2 Louisiana Tech in Physics and he has a Master's from Georgia Tech in  
3 Health Physics. And then we'll go on to you for questions.

4 Then I believe we're going to bring Stacey back to just  
5 give us some concluding remarks. But I would just thank all of you  
6 for being here and the staff will be here after the meeting. Paul  
7 Schumann also. And if you want to engage in any informal discussion,  
8 feel free to do so. And with that, Andy?

9 MR. KUGLER: Thank you, Chip. And I want to thank all  
10 of you -- I don't want the [microphone] feedback. All right, I want  
11 to thank you all for coming out today for our meeting regarding the  
12 Environmental Impact Statement for License Renewal for Point Beach  
13 Units 1 and 2. I hope that the information we provide to you today  
14 will help you to understand the process that we're going through,  
15 where we stand in that process today, and the role that you can play  
16 in the latter part of the process, helping us to ensure that the Final  
17 Environmental Impact Statement is an accurate document.

18 First, I'd like to provide some context for license  
19 renewal. The Atomic Energy Act authorizes the NRC to license nuclear  
20 power reactors for a period of 40 years. For Point Beach Units 1 and  
21 2, those licenses expire in the years 2010 and 2013 respectively. Our  
22 regulations also allow for an extension of those licenses for a period  
23 of up to 20 years, and Nuclear Management Company has applied for an  
24 extension of the licenses for these two units.

25 As part of the NRC staff review of license renewal

1 applications, we perform an environmental review to evaluate the  
2 impacts of operating the units for an additional 20 years. We held a  
3 meeting here last June in which we were looking for input on what the  
4 scope of our review should be. And as we indicated at that meeting,  
5 now that we have issued the Draft Environmental Impact Statement,  
6 we've returned to inform you of the results of our review and to give  
7 you an opportunity to ask questions and to provide us with any  
8 comments you might have on the draft. As Mr. Cameron mentioned, we do  
9 have several members of our staff here. If after the meeting you have  
10 any additional questions, we'll be happy to stay and answer your  
11 questions.

12           Before I get into the discussion of license renewal  
13 process itself, I would like to tell you a little bit about the NRC  
14 and our mission. As I said, the Atomic Energy Act is a legislation  
15 that authorizes the NRC to regulate the commercial use of nuclear  
16 materials in the United States. And in carrying out that authority,  
17 our mission is threefold: we protect public health and safety; we  
18 protect the environment; and we provide for the common defense and  
19 security. And we accomplish our mission through a combination of  
20 programs and processes such as inspections, enforcement actions,  
21 reviews of operating experience from other reactors, and evaluations  
22 of licensee performance.

23           Turning to license renewal in particular, the process  
24 that we go through in license renewal is very similar to the process  
25 we use when we initially license the plants in that there are two



1 parts to our review. There is a safety review and there is an  
2 environmental review. The safety review will include a safety  
3 evaluation, onsite audits and inspections, and an independent review  
4 by the Advisory Committee on Reactor Safeguards (ACRS).

5 Now, this slide gives an overview of the entire process.  
6 As you can see, as I mentioned, the process has two basic paths: the  
7 safety review which is in the upper part of this slide, and the  
8 environmental review which is toward the bottom. The safety review  
9 involves the staff's evaluation of the technical safety information  
10 that was included in the application by the Nuclear Management  
11 Company. There is a team of about 30 NRC technical staff and  
12 contractors who are performing that review and they're led by the  
13 Safety Project Manager, Mr. Michael Morgan. Mr. Gregory Suber who is  
14 with us here today, Gregory, if you could? Mr. Suber is assisting Mr.  
15 Morgan in that review and he's available to answer any questions you  
16 might have on the safety review.

17 The safety review for license renewal focuses on how the  
18 Nuclear Management Company is going to manage the aging of certain  
19 systems, structures and components. The programs for managing aging  
20 are either in place today or they will be put in place for license  
21 renewal. As I mentioned, the safety review process also involves  
22 audits and inspections. The inspection teams are drawn from our  
23 headquarters and from our Region III office which is in Chicago. We  
24 do have representatives of our inspection program here today. We have  
25 Ms. Ann Marie Stone right here, and also Ms. Patricia Loughheed, and

1 they're from our Region III office in Chicago.

2 Now, the results of these inspections that are performed  
3 will be documented in inspection reports. And the results of the  
4 safety review will be documented in the safety evaluation report which  
5 will include the information we learn in our inspections. The two  
6 mandatory inspections have not yet been performed but they are  
7 scheduled in the near future. And we're also in the process of  
8 developing the safety evaluation report at this time.

9 After the safety evaluation report is completed, one of  
10 the things that happens is we will provide it to the Advisory  
11 Committee on Reactor Safeguards for them to perform an independent  
12 review of the report. The Advisory Committee is an independent group  
13 of technical experts in nuclear safety. And they provide a consulting  
14 process for the Commission; in other words, they will provide  
15 information to the Commission independently of the staff. They review  
16 the license renewal application and they also review the staff's  
17 safety evaluation report. They develop their own conclusions and  
18 recommendations and then they provide those directly to the  
19 Commission.

20 Turning to the second part of the review process, the  
21 environmental review, we held scoping activities last year and we  
22 developed the Draft Environmental Impact Statement that we're here to  
23 talk about today. This environmental impact statement is a supplement  
24 to our Generic Environmental Impact Statement for License Renewal that  
25 the staff has developed. Today we're here to get your comments on

1 that draft, and the comment period continues through April 13th. Then  
2 in September, we expect to issue the final environmental impact  
3 statement after evaluating all the comments we receive either here at  
4 this meeting or written comments that we receive.

5 So, as you can see from the slide, there's a lot that  
6 goes into the final agency decision as to whether or not to renew  
7 these licenses. There's a safety evaluation report, the environmental  
8 impact statement, the results of the inspections and also the  
9 independent review by the Advisory Committee on Reactor Safeguards. I  
10 would also like to call your attention to the hexagons that are on the  
11 screen. These indicate opportunities for public involvement in the  
12 process.

13 The first opportunity for public involvement came at an  
14 information meeting that the safety side held back I believe it was in  
15 March of last year. This was an opportunity to hear about what the  
16 process was going to involve. Then back in June, we held our public  
17 scoping meeting here and we also had an opportunity for public comment  
18 and written comment as well on the scope of our review. This meeting  
19 and the comment period that's currently in progress is another  
20 opportunity for involvement in the environmental review.

21 There will also be meetings that are open to the public  
22 at the completion of the onsite inspections. And there are also some  
23 meetings that will be held with the Applicant to discuss technical  
24 issues. These meetings are also open to the public. The ACRS  
25 meetings, as well, where those are held will be open to the public.

1 And finally, there was an opportunity to request a hearing on this  
2 review but there was not a request for a hearing given so there will  
3 not be a hearing in this case.

4 That concludes my remarks on the overall process. Now,  
5 I'd like to turn the presentation over to Ms. Stacey Imboden to  
6 discuss the environmental review in more detail. Thank you.

7 MS. IMBODEN: My name is Stacey Imboden and I am the  
8 Environmental Project Manager for the Point Beach License Renewal  
9 Review. My responsibility is to coordinate the efforts of the NRC  
10 staff including a team from the national laboratories who have expert  
11 knowledge in various environmental disciplines who help us in  
12 preparing the environmental impact statement.

13 The National Environmental Policy Act of 1969 requires a  
14 systematic approach in evaluating the impacts of proposed major  
15 federal actions. Consideration is to be given to the environmental  
16 impacts of the proposed action and mitigation for any impacts that are  
17 believed to be significant. Alternatives, including the no-action  
18 alternative, are also to be considered.

19 Our environmental impact statement is a disclosure tool  
20 and it involves public participation. NRC regulations require that an  
21 environmental impact statement be prepared for proposed license  
22 renewal activities. So, we are here today to collect public comments  
23 on the Draft Environmental Impact Statement and these comments will be  
24 included in the Final Environmental Impact Statement.

25 This slide states our legal decision standard for the

1 environmental review. Basically, it is asking the question: "Is  
2 license renewal acceptable from an environmental standpoint? Should  
3 the option for license renewal be preserved?" We do not decide here  
4 whether the plant actually operates for an additional 20 years. That  
5 decision is made by energy planning decisionmakers such as the  
6 Licensee and State regulators.

7 On a previous slide, Andy described the overall safety  
8 and environmental review processes. This slide is just an expansion  
9 of the lower portion of that slide and it emphasizes the environmental  
10 review process. Nuclear Management Company submitted the application  
11 for license renewal to the NRC on February 26th, 2004. We  
12 subsequently published a notice of intent in the Federal Register that  
13 we would prepare an environmental impact statement associated with  
14 their application.

15 The Federal Register notice began the scoping process  
16 which invited public participation early in the process. We conducted  
17 a scoping meeting in June of last year to examine the bounds of our  
18 environmental review. We also conducted an environmental site audit  
19 during that same week in June. We brought our team of experts from  
20 the national labs to examine inside and outside of the power plant,  
21 review a substantial volume of documentation at the site, interview  
22 site personnel and interview local and state officials.

23 After the site audit, we determined that we needed  
24 additional information to prepare our Draft Environmental Impact  
25 Statement. In August 2004, we prepared a formal request for

1 additional information on remaining issues or comments. After we  
2 received a response to the request for additional information and  
3 reviewed all of the information that we had available to us from the  
4 scoping process, we prepared and issued a draft environmental impact  
5 statement. We issued the Draft Environmental Impact Statement in  
6 January. And in a few minutes, we will be hearing from Dr. Paul  
7 Schumann from the Los Alamos National Laboratory who will share the  
8 results of our efforts.

9 As each plant comes in for license renewal, we publish a  
10 plant specific supplement to the Generic Environmental Impact  
11 Statement. And what we have published in January is the supplement  
12 for Point Beach Nuclear Plant Units 1 and 2, and that is Supplement  
13 No. 23. This meeting is an opportunity for you to provide your  
14 comments on the Draft Environmental Impact Statement.

15 Presently, we are within the public comment period on  
16 the Draft EIS and the comment period expires April 13th. Once we  
17 receive all of the comments including what we receive at this meeting,  
18 we will evaluate that information and publish a Final Environmental  
19 Impact Statement. And our schedule presently provides that we publish  
20 that Final Environmental Impact Statement in September of this year.  
21 For the moment, that completes my remarks. Chip?

22 MR. CAMERON: Thank you, Stacey. Before we go on to Dr.  
23 Schumann and the Draft Environmental Impact Statement, are there any  
24 questions on the process the NRC uses that you heard Andy and Stacey  
25 describe? Any questions at all?

1                   Okay, great. And if anybody, if anything occurs to you,  
2 we'll always be able to circle back and get it. So, thank you very  
3 much, Stacey. And Dr. Paul Schumann is going to tell us about the  
4 Draft Environmental Impact Statement.

5                   DR. SCHUMANN: Thank you, Chip. Good afternoon, folks.  
6 As Chip mentioned earlier, I work for Los Alamos Laboratory, Stacey  
7 mentioned it also. NRC contracted with us to provide the expertise  
8 necessary to evaluate the impacts of license renewal at Point Beach  
9 Nuclear Plant. Our team consists of scientists from Los Alamos  
10 National Laboratory in New Mexico, Lawrence Livermore National  
11 Laboratory in California, and also Argonne National Laboratory here in  
12 Illinois, or here in Illinois right next door to this state here that  
13 we're in.

14                   The expertise that we used and provided to the Nuclear  
15 Regulatory Commission for plant relicensing included experts from a  
16 variety of different disciplinary backgrounds: atmospheric science,  
17 socio-economics and environmental justice, archeology, historical and  
18 cultural resources, terrestrial ecology, land use, radiation  
19 protection, regulatory compliance, nuclear safety, and water sources,  
20 hydrology as well as aquatic ecology.

21                   In 1996, the Nuclear Regulatory Commission published its  
22 Generic Environmental Impact Statement that you heard referred to  
23 earlier. Also, it was titled or listed as NUREG-1437 which identified  
24 92 environmental issues that were evaluated for license renewal. 69  
25 of these issues are considered generic issues or Category 1. That's

1       that left-hand kind of a flowchart that you see there. Those are  
2       Category 1 issues, and what that means is that the impacts are the  
3       same for all the reactors or they'll be the same for all the reactors  
4       that share certain features like the same type of cooling system, as  
5       an example.

6                       For the other 23 issues, 21 of them are referred to as  
7       Category 2 issues. The Nuclear Regulatory Commission found that the  
8       impacts for these issues were not the same at all the sites, and  
9       therefore, a site specific analysis was needed. And that's that  
10      second column or that second column that you see on the flowchart  
11      there.

12                      Only certain issues addressed in the Generic  
13      Environmental Impact Statement are applicable to Point Beach. For  
14      those generic issues that are applicable, we looked for any new  
15      information that was related to the issue that might affect the  
16      conclusion that we reached or that NRC reached in the Generic  
17      Environmental Impact Statement. If there is no new information, and  
18      that's kind of this part of the process that you see right here, if we  
19      didn't find any new information, then the conclusion of the Generic  
20      Environmental Impact Statement would be the one that would be adopted.

21                      If new information is identified and if it's determined  
22      to be significant, then we'll do a site specific analysis for that  
23      particular issue. For the site specific issues that were related to  
24      Point Beach, and that's sort of that middle block that you see there,  
25      a site specific analysis was performed. Finally, during the scoping



1 period, the public was invited to provide information on any potential  
2 new issues that there might be. And the team, during our review,  
3 looked to see if there were any new issues that needed to be  
4 evaluated.

5 For each of the environmental issues that are  
6 identified, there is an impact level that's assigned. Small issues  
7 are those where the effect is not detectable or it's too small to  
8 destabilize or noticeably alter any important attribute of the  
9 resource. Moderate issues are those where there may be an effect  
10 sufficient to alter noticeably but not destabilize important  
11 attributes of the resource. And large impacts are those where the  
12 effect is clearly noticeable and sufficient to destabilize important  
13 attributes of the resource.

14 I'll use the Lake Michigan fishery to illustrate how we  
15 might use these three criteria. The operation of the Point Beach  
16 Nuclear Plant may cause the loss of adult and juvenile fish at the  
17 intake structure. If the loss of fish is so small that it cannot be  
18 detected in relation to the total population of Lake Michigan, the  
19 impact would be small. If the losses would cause the population to  
20 decline and then stabilize at a lower level, the impact would be  
21 moderate. If losses at the intakes would cause the fish population to  
22 decline at a point where it cannot be stabilized and continually  
23 declines, the impact would be considered large.

24 When our team evaluated the impacts from continued  
25 operations at Point Beach Nuclear Plant, we considered information

1 from a wide variety of sources. We looked at what the Applicant had  
2 to say in their license renewal application. There was an  
3 environmental report that was submitted as part of their application  
4 for license renewal. We also conducted a site audit as Stacey  
5 mentioned earlier during which we toured the site, we interviewed  
6 plant personnel, we reviewed documentation, and we also talked with  
7 state and federal and local agencies and officials, permitting  
8 authorities and social services in this part of Wisconsin.

9 Lastly, we considered the comments that were received  
10 during the scoping period and those comments were included in Appendix  
11 A of the Supplemental Environmental Impact Statement along with NRC's  
12 responses. This is the body of information that we used as the basis  
13 for the analysis and for the preliminary conclusions that are in this  
14 Draft Environmental Impact Statement.

15 The Supplemental Environmental Impact Statement  
16 considers the environmental impacts of continued operations of Units 1  
17 and 2 during the 20-year license renewal term. The impacts of routine  
18 operations were considered for the cooling system, for transmission  
19 lines, radiological impacts, socio-economics, ground water use and  
20 quality, threatened or endangered species. And we also looked at  
21 cumulative impacts. The supplement also considers the impacts of  
22 postulated accidents and severe accident mitigation alternatives. And  
23 Mr. Rich Emch is going to be talking about impacts from accidents in  
24 just a few minutes.

25 Let me give you the highlights of our findings and then

1 feel free to ask for more detail if you have any questions. One of  
2 the areas that we looked at closely was the cooling system for the  
3 Point Beach Nuclear Plant. There are three Category 2 issues that are  
4 associated with cooling systems at the plant. These include  
5 entrainment and impingement of fish and shellfish, and heat shock.  
6 Entrainment is the process where aquatic organisms are passing through  
7 the debris screens at the plant in the intake and are traveling  
8 through the cooling system of the plant. Impingement occurs when  
9 larger organisms, larger fish or shellfish or water fowl might be  
10 drawn into the intake and pinned on the debris screens. Both  
11 processes generally are going to result in mortality of the organisms  
12 that are involved.

13 Point Beach had some problems with impingement several  
14 years ago. But the intake system was recently modified and a fish  
15 deterrent system was installed in order to address those concerns. As  
16 a result, impingement and entrainment impacts were determined to be  
17 small. The current Clean Water Act permit which is issued, it's  
18 called the Wisconsin Pollutant Discharge Elimination System (WPDES),  
19 the permit for Point Beach has provisions that address the new EPA  
20 requirements under Section 316(b) of the Clean Water Act to reduce  
21 impingement and entrainment for once-through cooling systems.

22 The third type of impact that's a Category 2 is heat  
23 shock. And that can occur when relatively warm water is released into  
24 cooler water and aquatic organisms in the lake that are adapted to the  
25 cooler water might lose equilibrium or die when they're suddenly

1 exposed to significantly warmer water. At Point Beach, the impacts of  
2 heat shock are also small.

3 There is also a number of Category 1 issues related to  
4 the cooling system. These include things such as water use conflicts,  
5 accumulation of contaminants, discharge of sanitary waste, minor  
6 chemical spills, metals and chlorine. In the Generic Environmental  
7 Impact Statement, NRC determined that the impacts that are associated  
8 with these Category 1 issues would be small. We evaluated all  
9 available information to see if there was any new and significant  
10 information for those issues. We did not find any. Therefore, we  
11 adopted NRC's generic conclusion, that the impact of the cooling  
12 system for these areas is also small.

13 Radiological impacts are a Category 1 issue and the NRC  
14 has made a generic determination that the impact of radiological  
15 releases during nuclear plant operations, during the 20-year license  
16 renewal period would be small. Because these releases are a concern,  
17 I want to discuss them here. All nuclear plants release some  
18 radiological effluents into the environment. During our site visit,  
19 we looked at the documentation for effluent releases and for the  
20 radiological monitoring program that is used by the plant. We looked  
21 at how the gaseous and liquid effluents are treated and released as  
22 well as how solid waste is treated, packaged and shipped offsite.

23 We also looked at how the Applicant determines and  
24 demonstrates that they're in compliance with regulations for release  
25 of radiological effluents. We also looked at data from onsite and

1 near site locations that the Applicant monitors for airborne releases  
2 and also for direct radiation, and other monitoring stations that are  
3 located beyond the site boundary including places where water, milk,  
4 fish and food products are sampled.

5 We found that the maximum calculated doses for a member  
6 of the public are well within annual limits that are considered  
7 protective of human health. Since releases from the plant are not  
8 expected to increase during the 20-year license renewal term, and  
9 since we also found no new and significant information related to this  
10 issue, we adopted the generic conclusion that the radiological impact  
11 on human health and the environment is small.

12 The possible impacts to threatened or endangered species  
13 is considered a Category 2 issue requiring a site specific review.  
14 Our team identified that no federally listed species occur on the site  
15 or in nearby waters of the lake. However, four federally listed  
16 species have been recorded in Manitowoc and Brown Counties and could  
17 potentially occur in the site vicinity. There's two birds: the bald  
18 eagle and the piping plover. That's the little guy that's shown here  
19 on the right. And also two plants: the dune or Pitcher's thistle and  
20 the dwarf lake iris.

21 NRC initiated an informal consultation process with the  
22 US Fish and Wildlife Service who noted that beach habitat near Point  
23 Beach could be suitable for plover nesting in the future and that  
24 Point Beach should have measures in place to protect any nesting birds  
25 if any were found. In response, Point Beach has proposed to implement

1 a program of surveying annually for the presence of piping plovers and  
2 will take additional protective measures should a piping plover be  
3 discovered on the site. A biological assessment regarding the piping  
4 plover was submitted to the US Fish and Wildlife Service. Informal  
5 consultation is still ongoing.

6 The staff believes that no additional mitigation is  
7 required for threatened or endangered species in the vicinity of the  
8 Point Beach Nuclear Plant and its associated transmissions line  
9 rights- of-way which we also looked at as part of the analysis. Based  
10 on this information and informal consultation with the Fish and  
11 Wildlife Service, the staff's preliminary determination is that  
12 continued operation of the Point Beach Nuclear Plant during the  
13 license renewal period may affect but is not likely to adversely  
14 affect the bald eagle and the piping plover. It likely will have no  
15 effect on the dune or Pitcher's thistle or the dwarf lake iris.

16 Another issue I'd like to mention briefly is that of  
17 cumulative impacts. These are impacts that are considered minor when  
18 you look at them individually, but they could be significant when  
19 they're considered with other past, present or reasonably foreseeable  
20 future actions regardless of what agency or person is undertaking the  
21 other actions. The staff considered cumulative impacts that could  
22 result from operating the cooling water system, the transmission  
23 lines, releases of radiation and radiological material, socioeconomic  
24 impacts, and ground water use and quality.

25 These impacts were evaluated to the end of the 20-year

1 license renewal term. I would like to point out that the geographical  
2 boundary of the analysis that we used was dependent on what the  
3 resource is. For example, the geographic area analyzed for  
4 transmission lines obviously is going to be a little different than  
5 that for cooling water. Our preliminary determination is that any  
6 cumulative impacts resulting from operation of the Point Beach Nuclear  
7 Plant during the license renewal period will be small.

8 Another area that our team looked at had to do with  
9 impacts related to the uranium fuel cycle and solid waste management  
10 and decommissioning of the units. In the Generic Environmental Impact  
11 Statement, the NRC considered impacts associated with these topics to  
12 be a Category 1 issue. Offsite radiological impacts and non-  
13 radiological impacts are environmental issues related to the uranium  
14 fuel cycle.

15 Okay. Anyhow, environmental issues that are associated  
16 with solid waste management include storage and disposal of non-  
17 radiological waste, low-level waste and mixed waste, onsite spent fuel  
18 storage and transportation of spent nuclear fuel and high-level waste  
19 to a repository. Environmental issues that are considered for  
20 decommissioning are similar to those looked at for operations. They  
21 include radiation doses, waste management, air quality, water quality,  
22 ecological resources and socio-economics. Our team found no new and  
23 significant information associated with these topics, and therefore,  
24 we adopted NRC's generic conclusion that impacts in these areas are  
25 small.

1                   The Point Beach Nuclear Plant Units 1 and 2 have a  
2 combined capacity of 1,036 megawatts electric. The team evaluated the  
3 potential environmental impacts associated with Point Beach Plant not  
4 continuing operation and replacing this generation capacity with  
5 alternative power sources. The team looked at a no-action  
6 alternative, development of new generation from a coal-fired plant, a  
7 gas-fired plant, a new nuclear power plant, purchased power and other  
8 technologies such as wind, solar and hydro-power, and then a  
9 combination of alternatives. For each alternative, we looked at the  
10 same types of issues that we looked at for operations of the Point  
11 Beach Plant during the license renewal term. The team's preliminary  
12 conclusion is that the environmental impacts of alternatives reach  
13 moderate or large significance in at least some impact categories.

14                   To summarize our preliminary conclusions, I mentioned  
15 that in 1996, the NRC reached generic conclusions for 69 issues  
16 related to operating nuclear power plants for another 20 years. For  
17 these Category 1 issues presented in the Generic Environmental Impact  
18 Statement, our team looked to see if there was any information that  
19 was both new and significant. We did not identify any new and  
20 significant information. Therefore, we preliminarily adopted the GEIS  
21 conclusion that impacts associated with those issues are small for  
22 Point Beach. For the 21 Category 2 issues, our team performed an  
23 analysis specific for the Point Beach site and found that the  
24 environmental impacts resulting from those issues also was small.  
25 Lastly, we found that environmental effects of alternatives to license



1 renewal, at least in some impact categories, do reach moderate or  
2 large significance.

3 What I'd like to do now is turn it back to Chip and  
4 answer any questions that you may have.

5 MR. CAMERON: Great, thank you, Paul. Do we have  
6 questions on any aspect of the Draft Environmental Impact Statement  
7 that Paul has described? Any questions? Questions at all for Paul?

8 DR. SCHUMANN: Like how did I do that with the  
9 microphone?

10 MR. CAMERON: Okay. Great. Thank you very much, Paul.  
11 And we're going to go to another part of the Draft Environmental  
12 Impact Statement and that's the SAMA analysis. This is Rich Emch.  
13 Are we staying with -- we're going to try that one? Okay.

14 MR. EMCH: I am Rich Emch. I'm a member of the  
15 environmental review team for Point Beach. I'm going to talk about,  
16 my first slide talks about postulated accidents. What you've heard  
17 referred to as the GEIS here tonight, the Generic Environmental Impact  
18 Statement for license renewal, evaluated two classes of accidents.  
19 One of those is what we call DBAs, design basis accidents, also known  
20 as postulated accidents. This is a set of accidents that are  
21 evaluated during the initial licensing of the plant that are used to  
22 ensure that the plant or the design of the plant is robust and the  
23 design of the plant is capable of handling these postulated design  
24 basis accidents without endangering the public.

25 Since these accidents are evaluated during initial

1       licensing and the plant is required to continue operating to keep the  
2       plant in the condition that was evaluated for the accidents, the  
3       ability to withstand these accidents continues throughout the life of  
4       the plant and goes on into the license renewal period. Because of  
5       that, the Commission made the decision in the GEIS that the impact for  
6       postulated accidents was small. And also no new and significant  
7       information was found by the Licensee or by the NRC related to this  
8       issue, so the decision was the GEIS conclusion of small significance  
9       would stand.

10               The second bullet on the slide talks about severe  
11       accidents. Severe accidents are by definition beyond design basis,  
12       more severe than the design basis accidents. And the main thing that,  
13       when we start talking about severe accidents, we're talking about  
14       accidents that may involve a substantial amount of core damage.  
15       Again, these were evaluated, had been evaluated for each and all of  
16       the plants in the GEIS, and the determination was that the risk is  
17       small based on the probability and weighted consequences analyzed for  
18       the plant.

19               The third piece is the severe accident, the SAMA, the  
20       severe accident mitigation alternatives analyses. For any plant that  
21       had not already had these analyses conducted, the Commission decided  
22       that they had to be conducted for all plants. So, for any plant that  
23       was going through license renewal and they had not already been  
24       evaluated, they would have to be evaluated and that was the case here  
25       for Point Beach. So, the Licensee did an evaluation and we reviewed

1       that evaluation.

2                       It's described in Section 5.2 and summarized in Section  
3       5.2 of the Supplement 23 to the GEIS, and it's also described in a lot  
4       more detail in Appendix G of that same document.  It's considered a  
5       Category 2 issue so it does involve a plant specific review.  The main  
6       purpose of it is to identify and evaluate possible plant changes,  
7       hardware, procedural changes, changes in training that could reduce  
8       the risk to the plant even further.

9                       Now, let's draw back for a moment and realize the risk  
10       level for this plant was evaluated by the Commission and was  
11       determined to be safe.  In other words, it meets all of our safety  
12       criteria, it meets the safety goals.  This analysis is an attempt to  
13       look for additional things that might be able to be put in place in a  
14       cost-beneficial manner that could indeed give you an even further  
15       reduction in risk.  We're particularly interested in or particularly  
16       looking for improvements that would prevent core damage or reduce the  
17       risk of core damage or improve containment performance so that if you  
18       did have core damage, that the containment would hold and would not  
19       allow any releases.

20                      It's a four-step process, the SAMA evaluation process.  
21       The very first step, characterizing the overall plant risk and to look  
22       for those systems processes in the plant that give what we call the  
23       most dominant factors, the most dominant risk factors, places where if  
24       you made a change, you would have the most chance of making a  
25       significant reduction in risk.  The tool for doing this is called the

1 PRA, the probabilistic risk assessment. Risk assessment looks at a  
2 combination of possible system failures in the plant and at the  
3 possibility of human errors and looks at a combination of these things  
4 that could lead to severe accidents, that is, core damage accidents,  
5 accidents that might result in a large release of radioactivity  
6 offsite.

7 The second thing is to identify, the second step is to  
8 identify possible improvements that could be made in those areas. So,  
9 again, we're looking for the dominant sequences, the things where you  
10 could, so to speak 'get the most bang for the buck', where you could  
11 get the biggest decrease in risk to the plant by making changes in  
12 these areas. And so, they propose a number of what they call  
13 candidate SAMAs, possible improvements to the plant.

14 The third step is to evaluate those SAMAs. For each of  
15 those SAMAs, to evaluate how much of a reduction in risk they might  
16 provide to the plant, and then also to evaluate the cost of  
17 implementation of those SAMAs, and then finally, to evaluate the  
18 potential benefit from those SAMAs. Everything has to be evaluated in  
19 terms of, has to be brought back to dollars so that a comparison can  
20 be made. And so, what they do is they evaluate the present day cost  
21 of implementing it and the present day estimate of the value of the  
22 benefit over the course of the 20 years of additional operation of the  
23 plant.

24 They use bounding analyses. Usually, the analysis of a  
25 SAMA is they'd say, okay, this SAMA is being suggested because it will

1 help reduce risk in this area so they'd say okay. In this area, this  
2 SAMA will completely reduce, completely eliminate the risk, and  
3 therefore, that's how they do the evaluation of the benefit. That of  
4 course is an overestimate and no change will actually get rid of all  
5 the risks. The next thing they do is when they're evaluating the  
6 costs of each SAMA, there are a number of things that are extremely  
7 difficult to evaluate and are usually left out and do result in an  
8 underestimating of the cost such as maintenance costs, surveillance  
9 costs and to some degree, replacement power costs.

10 Finally, once the value of each SAMA, the cost to the  
11 SAMA and the potential benefit of the SAMA have been evaluated and  
12 brought back to present day costs, they do a comparison, a  
13 cost-benefit analysis or comparison. And the three things we're  
14 looking for, the first thing is, is it cost-beneficial? In other  
15 words, does it give you, is the cost of the benefit more than the cost  
16 of implementing the change? And if it is, then it would be  
17 cost-beneficial. As you might guess, there's a lot of uncertainties.  
18 Any time you're evaluating present value, financial present value of  
19 things that go out for 20 years, you know, like you're trying to  
20 evaluate your house price or something like that 20 years from now,  
21 it's difficult to do and there's a fair amount of uncertainty in those  
22 kinds of calculations.

23 We also look to see if any of the SAMAs do indeed result  
24 in a significant decrease or reduction in risk either from core damage  
25 frequencies or from, you know, improved containment performance, and

1 therefore, stopping releases. And finally, we look to see if these  
2 SAMAs are related to the management of the effects of aging of plant  
3 systems and components during the extended period of operation.

4 The Licensee started off with approximately 202  
5 candidate SAMAs. They made this list from, there are many studies  
6 that have been done by the industry and by the NRC of PRA. There also  
7 have been a number of other plants who have conducted SAMA analyses.  
8 And so, the Licensee made their list of candidate SAMAs from those  
9 lists and from a fairly careful review of their own plant specific PRA  
10 to determine which SAMAs needed to be evaluated. They came up with  
11 202. They did a multi-step screening process.

12 First time through, the issue was: is the SAMA  
13 applicable to our plant? Our plant is a PWR. If the SAMA was for  
14 PWRs, it's not applicable. They also looked to see if it was a SAMA  
15 that had already been implemented or the essence of the SAMA, the  
16 purpose of the SAMA had already been dealt with in another way. After  
17 going through that screening process, they determined that they had 65  
18 SAMAs still left on the list and they went into a more careful  
19 evaluation of those. In each case, they're assessing a more careful  
20 assessment of the design and a more careful assessment of what the  
21 costs of implementing this improvement would be.

22 At the end of that evaluation, the Licensee determined  
23 that none of these SAMAs would be cost-beneficial. The NRC looked  
24 through this review and came to a similar conclusion except in two  
25 cases. With a little more careful look at it, we decided that there

1       were ways that a couple of the SAMAs could become cost-beneficial,  
2       either by how we treated uncertainties or looking at other economic  
3       assumptions or using a broader range of possible options for an  
4       implementation.

5                       The first of these is what's called the auto pump trip  
6       on low refueling water storage tank level. It's kind of a lot of  
7       scientific jargon, but basically during the initial stages of an  
8       accident, during what you might refer to as safety injection, the  
9       water for safety injection into the core is being supplied by a big  
10      tank called the refueling water storage tank. As that tank starts to  
11      empty, you need to switch over to what we refer to as recirculation  
12      before that tank becomes empty. And if by some, if you're not paying  
13      attention somehow and that tank empties before you change over or  
14      before you trip those pumps, if those pumps try to pump air, it  
15      damages within. Very simple, okay.

16                      And the overall, the cost of doing an automatic  
17      switchover to go from using the storage tank to the recirculation  
18      system was quite expensive and would not have been cost-beneficial,  
19      the conclusion that the Licensee came to. The NRC decided after  
20      looking at it fairly carefully that if the plant simply installed an  
21      automatic trip on the pump such that when you reach a certain level in  
22      the tank, that it would pump the trips, that that might be  
23      cost-beneficial. And so, we put that in our report as a potentially  
24      cost-beneficial item.

25                      The second one involves the use of a portable, providing

1 having the availability of a portable generator to power the auxiliary  
2 feed-water pumps after the battery is depleted during an accident.  
3 There is a battery that is set up to power them for some period of  
4 time, and this was talking about a method of providing an additional  
5 amount of power after that battery is depleted. The NRC concluded  
6 that if one took a careful look at uncertainties and used possibly a  
7 lower discount rate, that this SAMA might also become cost-beneficial.

8                   Neither of these SAMAs, these potentially  
9 cost-beneficial SAMAs are related to adequately managing the effects  
10 of aging during the renewal period. Therefore, there is no  
11 expectation that the implementation of these SAMAs would be required  
12 as part of license renewal under 10 CFR Part 54. And our preliminary  
13 conclusion there is that additional plant improvements to mitigate  
14 severe accidents are not required for license renewal at Point Beach.  
15 At this point, the Licensee is evaluating what they've seen in the  
16 draft document just like you folks are and we don't know that, they  
17 have not shared their plans with us as far as what their views are on  
18 these potentially cost-beneficial SAMAs or what they might be doing.  
19 We hope to know that by the time we put out the final document.

20                   With that, I'm finished with the SAMA evaluation. Are  
21 there any questions?

22                   MR. CAMERON: Questions for Mr. Emch on SAMA? Okay.  
23 Thank you very much, Richard. Stacey?

24                   MS. IMBODEN: Okay. Turning now to our conclusions, we  
25 found that the impacts of license renewal are small in all areas. We



1 also concluded that the alternative actions including the no-action  
2 alternative may have environmental effects in at least some impact  
3 categories that reach moderate or large significance. Based on these  
4 results, our preliminary recommendation is that the adverse  
5 environmental impacts of license renewal for Point Beach are not so  
6 great that preserving the option of license renewal for energy  
7 planning decision makers would be unreasonable.

8 This slide goes through some of the milestones for the  
9 environmental review. As I mentioned, we issued the Draft  
10 Environmental Impact Statement in January. The 75-day public comment  
11 period on the draft runs until April 13th. After that, we will review  
12 and disposition the comments that we receive, modify the environmental  
13 impact statement as appropriate, and publish the Final Environmental  
14 Impact Statement. And we expect to publish the Final Environmental  
15 Impact Statement in September of this year.

16 This slide identifies me as your primary point of  
17 contact with the NRC for the Point Beach Draft EIS. And you can call  
18 me at that number if you have questions. It also identifies where  
19 documents related to our review can be found in the local area. The  
20 Lester Public Library has a copy of the Draft EIS available for public  
21 review in addition to any correspondence sent by NRC to NMC or other  
22 agencies regarding the Point Beach license renewal review. The Draft  
23 EIS is also available on the NRC website at [www.nrc.gov](http://www.nrc.gov) or at the  
24 specific website address on the screen. And we also brought a few  
25 hard copies of the draft outside of this meeting if you want to pick

1 one up.

2 Outside of this meeting, you have three other ways to  
3 comment. You can comment in writing by mailing a letter to the  
4 address on the slide. You can comment in person if you happen to be  
5 at the NRC headquarters in Rockville, Maryland. And you can comment  
6 by email to pointbeacheis@nrc.gov, and I check that email box almost  
7 everyday. All of your comments will be collected and considered.  
8 That concludes my remarks.

9 MR. CAMERON: Okay. Thank you, Stacey. Any questions  
10 on how to submit comments at all? We usually at this point move into  
11 the second part of the meeting which is to hear from any member of the  
12 public who wants to make a comment about the Draft Environmental  
13 Impact Statement for license renewal. Usually we have people sign in  
14 at the beginning on a yellow card for that. We didn't receive any  
15 sign-ins but if anybody would like to say anything at this point, we'd  
16 be glad to hear it. Do we have any commenters at all?

17 This is where I randomly select someone in the audience.  
18 No. Well, I would just thank you all for being here and I'm going to  
19 turn it over to Andy Kugler, Section Chief, to close out the meeting  
20 for us.

21 MR. KUGLER: Well, I'd just like to thank you all for  
22 coming out today to our meeting. We appreciate the time you've taken.  
23 If you do have any questions, if you want to talk to the staff about  
24 anything, we will be remaining after the meeting. If you think of any  
25 comments after the meeting, the comment period as Stacey indicated

1 runs through April 13th, so you can still supply comments to us or  
2 provide us with comments if you think of anything else.

3 Also, in the packet that you received, there is a  
4 meeting feedback form toward the back. If you think of anything that  
5 we could do to make these sort of meetings more helpful to you, we'd  
6 appreciate feedback on that. You can either fill it out and drop it  
7 off at the back or you can mail it in. It's prepaid postage. So, we  
8 certainly appreciate any feedback we can get, any ways that we can  
9 improve. We're always looking for ways to do things better.

10 With that, I just want to say thank you.

11 (Whereupon, the meeting was adjourned.)

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