

**UNITED STATES OF AMERICA**  
**NUCLEAR REGULATORY COMMISSION**

**Title: DRAFT SUPPLEMENTAL ENVIRONMENTAL  
IMPACT STATEMENT - PUBLIC MEETING**

**PART II**

**Location: Russellville, Arkansas**

**Date: Tuesday, November 14, 2000**

**Pages: 54 - 104**

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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DRAFT SUPPLEMENT ENVIRONMENTAL IMPACT STATEMENT  
FOR THE ARKANSAS NUCLEAR ONE  
LICENSE RENEWAL APPLICATION

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PUBLIC MEETING

Holiday Inn Russellville  
Route 7 & I-40  
Russellville, Arkansas

Tuesday, November 14, 2000

The above-entitled meeting commenced, pursuant to  
notice, at 7:00 p.m.

APPEARANCES:

- CHIP CAMERON
- BARRY ZALCMAN
- CHRIS GRIMES
- ROBERT PRATO
- ANDREW KUGLER
- THOMAS KENYON

On Behalf of PNNL:

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EVA ECKERT HICKEY

On Behalf of ANO-1:

GARRY YOUNG

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

1  
2 MR. CAMERON: Good evening, everybody; it's nice  
3 to see some familiar faces back from this afternoon. I'd  
4 like to welcome you to the evening session of the NRC  
5 meeting on the Draft Environmental Impact Statement on the  
6 license renewal application for Arkansas Nuclear One, Unit  
7 1, and I think we're going to be referring to the facility  
8 throughout the night as ANO, Unit 1.

9 MR. GRIMES: ANO-1.

10 MR. CAMERON: Okay, ANO, Unit 1, or one. My name  
11 is Chip Cameron, and I'm the Special Counsel for Public  
12 Liaison at the Nuclear Regulatory Commission, and I'm going  
13 to be your facilitator for tonight. Before we get started  
14 with the NRC's presentations on the Draft Environmental  
15 Impact Statement, I'd just like to say three things, cover  
16 three items with you.

17 One is that the objectives, as you'll hear more  
18 from my colleagues tonight, the objectives are an effort to  
19 inform you about the findings in the Draft Environmental  
20 Impact Statement, and also, the status of license renewal at  
21 ANO-1. More importantly to hear any comments that you might  
22 have about what's in the Draft Environmental Impact  
23 Statement, and the NRC will be using those comments in the  
24 development of the final Environmental Impact Statement.

25 Format, we'd encourage you to be interactive with

1 the NRC staff. We have a number of presentations on various  
2 topics, and we'll stop after every so many of those and go  
3 out to you to see if there's any questions that you have or  
4 comments that you want to make. If you do want to talk  
5 tonight, just signal me and I'll bring you this talking  
6 stick and just give your name and affiliation, if  
7 appropriate, and I don't think we're going to be pressed for  
8 time in terms of having too many people who want to say  
9 things.

10           One of the things we like to do at these meetings  
11 is make sure that everybody has an opportunity to talk, but  
12 I don't think that we'll have to limit anybody to a certain  
13 amount of time tonight. And you'll be able to file written  
14 comments on the Draft Environmental Impact Statement, but we  
15 are here tonight to talk with you in person, and you may  
16 hear things tonight that will help you to prepare written  
17 comments or to hear what others in the community think about  
18 the Draft Environmental Impact Statement.

19           And I'm going to go over the agenda real quickly  
20 for you so you'll have an overview and also to introduce the  
21 NRC staff and also the scientists who are helping us with  
22 the environmental analysis at ANO-1. And the first person  
23 who's going to talk tonight is going to be Barry Zalcmán,  
24 who is the section chief of the Generic Issues,  
25 Environmental, Financial and Rulemaking Branch at the NRC,

1 and Barry supervises the preparation of environmental impact  
2 statements on all the various license renewal applications  
3 that are coming into the NRC.

4           Next we're going to go to Chris Grimes, who's  
5 right here, and Chris is the branch chief of the License  
6 Renewal and Standardization Branch at the NRC. He's going  
7 to talk about what the NRC's mission is. Chris' branch  
8 integrates the safety evaluation that's one part of license  
9 renewal with the environmental review that comes out of the  
10 Generic Issues Branch and also integrates safety or  
11 inspection findings with that and makes a recommendation on  
12 to the Commission about what should be done with the license  
13 renewal application.

14           We're then going to go to Bob Prato, who's right  
15 here. He works for Chris in License Renewal and  
16 Standardization Branch, and he is the project manager on the  
17 safety evaluation for the ANO-1 license application, license  
18 renewal application. We're then going to shift back -- Bob  
19 will give you sort of the overview on license renewal, and  
20 then we're going to shift back to environmental issues and  
21 Mr. Tom Kenyon, who's the environmental project manager in  
22 the Generic Issues Branch -- he's the project manager for  
23 ANO, Unit 1, preparation of the environmental impact  
24 statement -- Tom is going to talk about the environmental  
25 review process, give you an overview on that.

1           And then we're going to get to the specifics of  
2 the Draft Environmental Impact Statement, and to present  
3 that to you we have Eva Hickey, who is over here on the end,  
4 and she's the task leader for the environmental review which  
5 is being done by the Pacific Northwest National Lab helping  
6 the NRC out on that.

7           And as part of that environmental review the NRC  
8 is also looking at something that's called postulated plant  
9 accidents, and we have Andrew Kugler right here from the NRC  
10 staff, also from the Generic Issues Branch, who's going to  
11 talk about the postulated accidents, and you'll see from the  
12 agenda that there's going to be questions and comments  
13 interspersed after these presentations.

14           We'll then come back to Tom Kenyon for a wrap-up,  
15 and if anybody has a formal statement that they'd like to  
16 read into the record, we'll provide for that at that time.  
17 Now I'm going to turn it over to Barry Zalzman to give us an  
18 overview. Barry.

19           MR. ZALCMAN: Thank you, Chip. Welcome. My name  
20 is Barry Zalzman; I am the section chief of the  
21 Environmental and Rulemaking Section inside the Generic  
22 Issues, Environmental, Financial and Rulemaking Branch.  
23 It's a big title but there's a number of activities that our  
24 staff is involved with. For those of you who are familiar  
25 with the utility market and the changes that are occurring

1 in terms of deregulation, it's our staff that also does the  
2 financial qualification reviews and funding insurance  
3 reviews as well.

4 But today we're going to talk about the  
5 environmental activities. My section includes environmental  
6 specialists; it also includes environmental project managers  
7 that participate in a team environment to look at the  
8 environmental issues. In addition we have the  
9 responsibilities for managing contracts, to gain access to  
10 certain technical expertise to round out the capabilities of  
11 the staff, and we manage those through contracts with  
12 National Laboratories. Pacific Northwest National  
13 Laboratories is the principal organization that we use to  
14 assist us in this environmental review.

15 Let me slip through the slides quickly. Both  
16 Chris and I are going to be talking at a very high level,  
17 and eventually the project managers will talk to you in  
18 greater detail on the process and the issues that we focused  
19 on in the review.

20 When we were here in April last we talked to you  
21 about the scope of the NRC environmental review associated  
22 with the Unit 1 application for Arkansas Nuclear One;  
23 that's an application to renew its license. We indicated at  
24 that time that there would be an opportunity to engage with  
25 you again once the preliminary findings were developed by



1 the staff, and that's why we're here today, to discuss with  
2 you our preliminary results of the environmental review on  
3 Entergy's application to renew the operating license for  
4 ANO-1.

5 We plan to put the environmental review into  
6 context that will give you an idea of the many activities  
7 involved to proceed through toward making a recommendation  
8 to the Commission. We'll talk a little about the statutory  
9 involvement, the regulatory framework for this action, the  
10 purpose of the review, the process we go through in  
11 conducting our review, the preliminary results of the review  
12 and the schedule that we're working to.

13 We want you to know that this is your meeting as  
14 well; it's an opportunity for you to engage us; it is a  
15 meeting for and with the public. That's slightly different  
16 than the kinds of other activities where we engage in  
17 discourse in conducting our reviews. It will provide you  
18 the opportunity to give us input you may have on the  
19 preliminary findings today and identify how you can  
20 communicate with us again in the future during the public  
21 comment period so you can give us any comments on anything  
22 you've heard today. Most importantly through this  
23 discussion we do want to hear from you.

24 So let me provide you a little bit of background  
25 on this effort. The operating license for Unit 1 -- and

1 we're only considering Unit 1 at this time -- for Arkansas  
2 Nuclear One will currently expire in 2014. As we'll discuss  
3 later, the Atomic Energy Act allows a licensee such as  
4 Entergy to renew its license. The NRC has established that  
5 the renewal of an operating license for a nuclear power  
6 plant can be for a period of up to twenty years.

7           Part of the license renewal process requires that  
8 the NRC systematically consider environmental impacts during  
9 the decision-making process on an application for renewal,  
10 and this review must comply with National Environmental  
11 Policy Act as well as NRC's own regulations dealing with  
12 environmental protection.

13           ANO-1 submitted its license application in January  
14 of 2000. The NRC environmental staff and its contractors  
15 conducted a site audit in April of this year and held two  
16 public scoping meetings to identify those environmental  
17 issues that needed to be addressed during our review. At  
18 that time we were looking for significant issues that you  
19 were aware of, members of the public were aware of, to  
20 supplement those issues that we already planned to consider  
21 in our review.

22           Thereafter, we had an on-going dialogue with  
23 Entergy during the review period to resolve additional  
24 questions that we had while conducting out independent  
25 assessment. All this culminated at this stage of the

1 review, October 3rd, as the NRC issued the Draft  
2 Supplemental Environmental Impact Statement that describes  
3 the results of our review.

4 We are currently in the middle of a comment period  
5 for that document during which we receive comments from  
6 members of the public on its contents. Comments on the  
7 environmental issues discussed in the report may help the  
8 staff evaluate the acceptability of the environmental  
9 aspects of the ANO-1 license renewal.

10 And that brings us to the specifics of why we're  
11 here tonight. The purposes of today's meeting are to  
12 discuss NRC's mission and how NEPA factors into it, describe  
13 the environmental review process, discuss the results of our  
14 review, provide the review schedule, receive any comments  
15 that you may have today and explain how you can submit  
16 comments to us before the end of the comment period.

17 And with that, I'm going to pass the baton to  
18 Chris Grimes, who is the branch chief for License Renewal  
19 and Standardization Branch, and it's his branch that  
20 integrates -- as Chris -- as Chip indicated before, it's his  
21 branch that integrates the environmental, the safety as well  
22 as the inspection findings and make a recommendation to the  
23 Commission.

24 MR. GRIMES: I think I'll use the walking stick. I  
25 have two electronic devices in my hand; I'm dangerous. I

1 would like to -- I'd like to begin by, first of all,  
2 pointing out that out at the registration table there are  
3 some public meeting feedback forms. Since many of you  
4 attended the session earlier this afternoon, I'd like to  
5 encourage you to take the time to fill out the public  
6 meeting feedback forms.

7           The Nuclear Regulatory Commission is an  
8 independent federal agency, but first and foremost, we are  
9 public servants. And one thing that's very important is  
10 that we've come down here to try and serve the public by  
11 sharing our mission, our purpose on how we're conducting our  
12 evaluations, how we're trying to fulfill our mission, so we  
13 would like feedback from the members of the public to tell  
14 us whether or not we're fulfilling your needs.

15           The NRC's mission is to regulate the nation's  
16 civilian use of nuclear materials, and we do so in three  
17 ways. The first is to ensure adequate protection of public  
18 health and safety. The second is to protect the  
19 environment, and the third is to provide -- to promote the  
20 common defense and security. This mission and the NRC's  
21 authority is derived from the Atomic Energy Act of 1954 as  
22 well as amendments to those acts and other legislation that  
23 has been passed since related to security, waste and energy  
24 policy issues.

25           The NRC's regulations are issued under Title 10 of

1 the Code of Federal Regulations, and throughout our  
2 presentations this evening you'll hear us refer to that as  
3 10 CFR. The NRC establishes requirements for nuclear power  
4 plant design and operation as well as limits for  
5 radiological exposure and releases. In order to fulfill  
6 that mission we have safety requirements that are codified  
7 in the license for each plant; those safety requirements are  
8 then inspected and enforced to ensure that the safety is  
9 being maintained.

10 We protect the environment by virtue of  
11 radiological limits that are also inspected, and the utility  
12 provides monitoring programs. Environmental protection is  
13 also provided by the NEPA process, National Environmental  
14 Policy Act, which we're going to talk about in some detail  
15 this evening.

16 For commercial power reactors the NRC's regulatory  
17 functions include licensing. A nuclear power plant license  
18 is based on a set of established requirements to ensure that  
19 the design and proposed operation are safe based on  
20 radiological safety standards. Those requirements also  
21 include provisions for a security program to safeguard  
22 safety related equipment and nuclear materials. NRC  
23 conducts routine inspections, and we have a resident  
24 inspector at each plant site.

25 To ensure that the design and operation conform to

1 the license requirements, enforcement actions are taken in  
2 the event that those license requirements are not being  
3 satisfied. That is a very broad overview of how the NRC  
4 operates. But for our specific purpose tonight, I'd now  
5 like to turn over the podium to Bob Prato who's going to  
6 describe the overall license renewal process. Bob.

7 MR. PRATO: Good evening. Again, my name is Bob  
8 Prato; I am the project manager for the ANO-1 license  
9 renewal application safety review. I'm going to be covering  
10 -- I'm going to be discussing license renewal in general as  
11 well as the license renewal process, and that's a lot of  
12 ground to cover so if you have any questions, I would  
13 request you please write them down on the slide we're at at  
14 the time and I'll be glad to address them after my  
15 presentation. At that time I'll also be glad to answer any  
16 questions related to the safety review.

17 The Atomic Energy Act and NRC regulations limit  
18 commercial power reactor licenses to forty years but also  
19 permits the renewal of such license for an additional twenty  
20 year period. The forty year term was originally selected on  
21 the basis of economic antitrust considerations, not  
22 technical limitations, but once the licensing term was  
23 established, the design of several system structures and  
24 components were engineered on the basis of an expected forty  
25 year service life. The safety requirements for the initial

1 forty year license are contained in 10 CFR, Part 50.

2           When the first reactors were constructed, major  
3 components were expected to last at least forty years.  
4 Operating experience has demonstrated that that expectation  
5 was unrealistic with some major components, such as the  
6 steam generator and pressurized water reactors. However,  
7 research conducted since 1982 and plant operating experience  
8 has demonstrated that there are no technical limitations to  
9 plant life since major components and structures can be  
10 replaced and refurbished, thus the plant life is determined  
11 primarily on economic factors.

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

22           The Commission determined that if the aging of  
23 active components is adequately managed by existing  
24 maintenance and surveillance programs and other aspects of  
25 the existing license requirements can continue through the

1 licensing extension period. The rule also requires that  
2 time dependent design analyses be identified and evaluated.

3 A new license can be granted upon a finding by the  
4 Commission that actions have been or will be taken so that  
5 there is reasonable assurance that applicable aging effects  
6 will be adequately managed for the period of extended  
7 operation, and whether or not the adverse environmental  
8 impacts of the license renewal are so great that preserving  
9 the option for license renewal for energy planning decision  
10 makers would be unreasonable.

11 The United States currently receives about twenty  
12 percent of its electricity from the 103 currently operating  
13 nuclear power plants. The electricity sector is moving  
14 rapidly to a deregulated market in which energy supply  
15 sources will be dictated by the cost to the consumer. At  
16 the same time there is growing pressure to limit fossil fuel  
17 emissions because of continuing concerns for clean air and  
18 the potential for changes in global climate.

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



1 projected.

2           Some current operating U.S. plants will not apply  
3 for license renewal for economic reasons. The NRC  
4 established a license renewal requirement so that any  
5 current -- any plant that is financially and materially  
6 capable of operating safely beyond a current term of its  
7 current license should have that opportunity and clearly  
8 understand the requirements for which such extended  
9 operation as is described in the Generic Environmental  
10 Impact Statement for license renewal.

11           Calvert Cliffs in Maryland was the first plant to  
12 apply for license renewal. Their application was submitted  
13 in April, 1998, and they received their renewed license in  
14 March of 2000. The renewal application for ANO-1 plant was  
15 submitted by letter dated January 31, 2000. Although the  
16 ANO-1 license does not expire until 2014, the licensee is  
17 interested in the license renewal process today to ensure  
18 that they clearly understand what requirements will be  
19 necessary for an extended license prior to the expiration of  
20 the current license for future financial planning.

21           The license renewal process. The license renewal  
22 process consists of parallel safety and environmental  
23 reviews which will be documented in a safety evaluation  
24 report for the aging management review -- aging management  
25 review, excuse me, and a supplement to the Generic

1 Environmental Impact Statement for the environmental impact  
2 review.

3 The aging management findings in the NRC staff  
4 safety evaluation will be verified by NRC inspections. The  
5 renewal application and safety evaluation will also be  
6 reviewed by the NRC's Advisory Committee on Reactor  
7 Safeguards in accordance with the usual practices for  
8 issuing licenses.

9 The NRC plans to complete a safety evaluation  
10 report for ANO-1 renewal application which will address the  
11 scope of passive systems, structures and components, their  
12 applicable aging effects and the aging management program  
13 the licensee will rely on to ensure that the plant is safely  
14 maintained for the period of extended operation.

15 The initial report will identify any open items  
16 and any confirmatory matter related to the safety review  
17 under Part 54 that must be resolved before the Commission  
18 can complete its decision on a renewed license. That report  
19 will be made available to the public. The NRC licensing  
20 process includes a formal process for public involvement  
21 through hearings conducted by a panel of advisory law judges  
22 known as the Atomic Safety and Licensing Board.

23 The process consists of a petition to hold  
24 hearings on particular issues to be litigated by that board.  
25 There were no petitions submitted for ANO renewal

1 application so there is no hearing planned at this time.  
2 Despite the absence of a formal hearing, interested members  
3 of the public who are concerned about nuclear safety issues  
4 can raise those issues informally during various public  
5 meetings that the NRC will hold with Entergy to discuss the  
6 safety aspects of the proposed extended plant operation.

7 Time is usually provided at the conclusion of each  
8 meeting for public comment and question. Meetings on  
9 particular technical issues are usually held at the NRC  
10 headquarters in Rockville, Maryland; however, some technical  
11 meetings and meetings to summarize the results of the NRC  
12 inspection findings will be held near the plant in a place  
13 that's accessible to the public.

14 The ANO-1 renewal application, safety evaluation  
15 report, meeting summaries and other related correspondence  
16 are available for public review at the NRC public document  
17 room in Rockville, Maryland, or at the NRC electronic public  
18 document room at the Website [www.NRC.gov](http://www.NRC.gov) -- it's on the  
19 board over there. Many of these materials can also be found  
20 on the NRC Website under the reactor and licensing renewal  
21 icon.

22 Paper copies of the application, reports and  
23 significant correspondence are available to the local  
24 residents at the Pendergraft Library at the Arkansas  
25 Technical University located at 305 West Q Street in

1 Russellville.

2           The Advisory Committee on Reactor Safeguards, or  
3 the ACRS, performs an independent review of the renewal  
4 application and the safety evaluation and they report their  
5 findings and recommendations directly to the Commission.  
6 They also hold public meetings that are transcribed. Oral  
7 and written statements can be provided during the ACRS  
8 meetings in accordance with the instructions described in  
9 the notice of their meetings in the Federal Register.

10           At the end of the process the final safety  
11 evaluation report, the final supplement to the environmental  
12 impact statement, the results of the inspections and the  
13 ACRS recommendations are submitted to the Commission with a  
14 staff recommendation. Those documents and any formal  
15 Commission meeting to discuss the staff's recommendations  
16 are also accessible to the public.

17           Each Commissioner will vote on the proposed action  
18 and a decision is formally sent to the NRC staff for  
19 whatever action they conclude is appropriate for the renewal  
20 application. The individual Commissioner's vote -- the  
21 individual Commissioners' votes and their instructions to  
22 the NRC staff are also publicly available.

23           Throughout the NRC's review of the license renewal  
24 application, the NRC continues to conduct regular  
25 inspections and amendments to the current license. The

1 NRC's inspections and plant performance review are currently  
2 evolving with the NRC's initiatives to improve the reactor  
3 oversight process.

4           If you are interested in learning more about the  
5 new inspection and oversight process, there is information  
6 available on the NRC Web page and in NUREG-1649, Revision 1.  
7 The normal regulatory process and amendments to the existing  
8 license will continue in parallel with the renewal  
9 application and address such matters as operating events,  
10 spent fuel storage, security and emergency planning.

11           If there are any questions at this time on license  
12 renewal process or on the safety evaluation, I will be glad  
13 to take them at this time. Any questions?

14           MR. CAMERON: Anybody out there have anything to  
15 say on this? All right, well, thanks, Bob. And we're going  
16 to go from the overview that Bob presented to focus in on  
17 the environmental aspects, and Tom Kenyon is going to talk  
18 about the National Environmental Policy Act process. Tom.

19           MR. KENYON: Good evening. My name is Tom Kenyon  
20 and I'm the environmental project manager. Just so you can  
21 understand the distinction between Bob and myself, Bob  
22 directs the review from a safety aspect of renewing the  
23 license, and I'm looking at the environmental aspects of the  
24 license renewal. I intend to spend the next fifteen minutes  
25 or so talking about the process required by the National

1 Environmental Policy Act, or what we call the NEPA process,  
2 and then describe how that process has been incorporated in  
3 the NRC regulations and then more specifically how it's  
4 being applied to ANO-1.

5           The NEPA was enacted in 1969 and requires all  
6 federal agencies to use a systematic approach to consider  
7 the environmental impact of certain decision-making  
8 proceedings. It is a disclosure tool that involves the  
9 public. It involves a process whereby the information is  
10 gathered by federal agencies; we document that -- to make an  
11 informed decision. We document that information and then we  
12 invite public participation to evaluate it.

13           Now the NEPA process results in a number of  
14 different documents, most chief among them is the  
15 environmental impact statement, which we call an EIS, which  
16 describes results of rather rigorous review that we do to  
17 evaluate the environmental impacts of a proposed action that  
18 may significantly affect the quality of the human  
19 environment.

20           Now the NRC has already determined that license  
21 renewal is such a major federal action, which is why we're  
22 here today. Now this slide describes the objective of the  
23 environmental review, but to paraphrase it, we're simply  
24 trying to decide whether or not a continued operation of  
25 ANO-1 for an additional twenty years is acceptable from an

1 environmental standpoint.

2           Now to give you a little bit of history I'd like  
3 to spend a few minutes describing how the staff incorporated  
4 the NEPA process into the regulatory framework at the NRC  
5 and how we perform an environmental review. The NRC's  
6 implementing regulations for carrying out the NEPA process  
7 are found in 10 CFR, Part 51. The regulation outlines the  
8 contents of the environmental impact statement and it also  
9 describes the process that we follow in order to meet the  
10 requirements of NEPA.

11           Early on in establishing the license renewal  
12 process back in the 1980s and '90s, we recognized that the  
13 original environmental impact statements that were developed  
14 for when we licensed these plants twenty or more years ago  
15 would need to be updated to reflect the additional twenty  
16 years of operation. So the NRC undertook a rulemaking  
17 effort to modify Part 51 and address a license renewal in  
18 that regulation.

19           As part of the rulemaking effort on Part 51, the  
20 staff developed a generic environmental impact statement  
21 called the GEIS which took a systematic look at the  
22 thousands of hours of operating experience at all of the  
23 nuclear power plants to help us identify potential  
24 environmental impacts. In addition, the staff uses an  
25 Environmental Standard Review Plan for license renewal to

1 help us give guidance on our review.

2           There are copies of all these documents in the  
3 back for your examination. You can also view these items on  
4 our Website.

5           Now this slide shows a little more detail of the  
6 environmental review process that was shown on the earlier  
7 chart, and it graphically shows the process that I'm going  
8 to talk about for the next few minutes, so you might want to  
9 refer back to it from time to time.

10           Now as far as the NEPA process goes, there are  
11 certain steps that we at NRC are required to follow. These  
12 steps are consistent with the development of all EISs  
13 prepared by federal agencies for any proposed major federal  
14 action.

15           The first step is the issuance of a notice of  
16 intent where we notify the public of our intention to  
17 develop an environmental impact statement, and for ANO-1  
18 this was issued back in March. Now to prepare for the  
19 review the staff assembled a team of NRC staff with  
20 backgrounds in the specific scientific and technical  
21 disciplines that are required to perform these reviews. In  
22 addition, as Mr. Zalcman mentioned earlier, to supplement  
23 the technical expertise of the staff we engaged the  
24 assistance of the Pacific Northeast National Laboratory to  
25 make sure we had a well-rounded knowledge base to perform



1 this review.

2           We put together a team of about twenty people to  
3 do this review, many of whom are here today to hear what you  
4 have to say and to answer any questions you might have.

5           The next step is the scoping process where we will  
6 identify the scope of the environmental impact statement.  
7 This occurred for ANO-1 back in April and May during which  
8 time we had two public meetings here in this hotel to  
9 discuss the scope of the ANO review.

10           Now our review team also went to ANO-1 site to  
11 acquaint ourselves with the area and to discuss the  
12 questions that we had developed after taking a look at  
13 Entergy's application. As the review progressed, we  
14 contacted federal, state and local authorities, and we  
15 looked at a number of different items, including, obviously,  
16 looking at potential environmental impacts of renewing the  
17 license.

18           We looked at alternatives of renewing the license  
19 and what those environmental impacts would be, and then we  
20 looked at possible mitigation measures, which are things  
21 that could be done to decrease the environmental impact on  
22 the license renewal. On October 3rd we issued our Draft  
23 Environmental Impact Statement for public comment, and this  
24 was Supplement 3 to the GEIS, which I mentioned earlier, and  
25 it's a supplement because we rely on part of the findings in

1 the GEIS for part of our conclusions.

2           The report is a draft not because it is incomplete  
3 but rather because we're at an intermediate stage in our  
4 decision-making process. We are in the midst of the second  
5 public comment period to allow you and other members of the  
6 public to take a look at the results of our review and then  
7 to provide us feedback on it.

8           After we gather your comments and comments from  
9 other members of the public, we may decide to change  
10 portions of the environmental impact statement, and then  
11 after we finish making the changes, we would issue the final  
12 environmental impact statement.

13           Now to give you a general idea of the overall  
14 process, let's talk about what we did as part of our review.  
15 As I said earlier, we looked at Entergy's application and  
16 information that they had provided us. We visited the site;  
17 we talked to them about their evaluation process; we  
18 reviewed any other comments that we had received during the  
19 scoping period. And I want to point out that all the  
20 comments that were received were considered. In addition,  
21 we contacted federal, state and local authorities as well as  
22 local service agencies to obtain information on the unit.

23           Now the next two slides give you an idea of the  
24 kind of things that we look at. I'm not going to talk about  
25 them in detail because our next presentation will go more

1 into detail on the results. The things we looked at include  
2 aquatic ecology and the threatened and endangered species;  
3 we looked at human health and socioeconomics and a number of  
4 other related matters.

5           Now the regulations identify some issues that the  
6 staff doesn't look at during its environmental review,  
7 including the need for power and the cost of power, spent  
8 fuel disposal, except for transportation in this local area,  
9 and how this area is affected by it. In addition, as I  
10 mentioned earlier, we do not look at the safety aspects of  
11 the review -- my team doesn't look at that; that's being  
12 handled by the team Mr. Prato directs.

13           Now before we go on, I want to open the floor up  
14 again to find out if there are any comments or questions  
15 that you would like to ask of us before we continue.

16           Okay, now I'd like to introduce Eva Hickey who is  
17 the task leader at Pacific Northwest National Laboratory;  
18 she headed up the PNNL review.

19           MS. HICKEY: Good evening. My name is Eva Hickey  
20 and I work for Pacific Northwest National Laboratory in  
21 Richland, Washington, and I'm in the Environmental  
22 Technology Division.

23

24

25

1           Today I'd like to talk about the process that we  
2 used for evaluating the environmental issues for the ANO-1  
3 license renewal, and then I'll talk a little bit about the  
4 report that we developed after the evaluation. We've  
5 brought some of our team of environmental scientists with us  
6 tonight, so if anybody has any questions, they would be glad  
7 to give you some answers.

8           First, I'd like to tell you a little bit about the  
9 report that we use -- the reference document that we use for  
10 our evaluation. The generic environmental impact statement  
11 that Tom mentioned earlier was published as NUREG-1437, and  
12 it was issued in 1996. It forms the basis for the rule  
13 revision to 10 CFR, Part 51. The NRC worked with the  
14 states, the Council on Environmental Quality, CEQ, and  
15 Environmental Protection Agency and a number of other groups  
16 and held a series of public workshops to develop the final  
17 GEIS.

18           During that time, NRC did its best to identify  
19 what environmental issues needed to be looked at during the  
20 license renewal process. The staff identified and  
21 categorized environmental impact that was specific to  
22 license renewal, and from this they came up with a total of  
23 92 potential environmental impacts, and these are evaluated  
24 in the GEIS.

25           When the staff evaluated the 92 issues, they found

1 that some of those were generic, that is that you see these  
2 at all of the power plants, and it does not matter what type  
3 of plant it is or where the plant is located. So NRC wanted  
4 to give them special designation, and they're called  
5 Category 1 issues, and there are 69 of those Category 1  
6 issues.

7 As an example of a Category 1 issue, we might talk  
8 about offsite radiological consequences. When developing  
9 the GEIS, the staff looked to see if offsite doses during  
10 the renewal process would exceed current levels that we see  
11 during normal operations and, in fact, a look at a  
12 historical review showed that public -- doses to the public  
13 had been maintained well below regulatory limits and, if  
14 fact, they tend to keep going down. The staff could see no  
15 reason for these doses to increase during extended operation  
16 provided monitoring and control programs continued to be  
17 implemented.

18 Because expected radiological impacts apply to all  
19 plants in a similar manner and the significance level of the  
20 offsite radiological impact is considered small at all  
21 plants, the staff concluded that this item can be addressed  
22 in a generic way and, therefore, it's a Category 1 item.

23 This does not mean that our team did not look at  
24 these issues any more. What it meant was that we looked to  
25 see if there's any new and significant information that has

1 come about since the GEIS was issued four years ago. I said  
2 before there are 69 of these category issues, and as part of  
3 the review, we require the applicant to identify any new and  
4 significant information regarding these Category 1 issues.

5           During the scoping phase of the review we also  
6 looked at comments that the members of the public might have  
7 had to make regarding these issues. If there was new and  
8 significant information revealed by this review, then our  
9 environmental team would look at them on a site-specific  
10 basis.

11           That left 23 issues that have been identified as  
12 Category 2 issues, and these are issues that the  
13 environmental team looked at in a site-specific way.

14           The review process is designed to help NRC  
15 determine whether or not there's any significant new issues  
16 that were not identified when the GEIS was published. If  
17 there's a significant new issue identified during our  
18 current review process, then we would look at it on a  
19 plant-specific basis just as if it were a Category 2 issue.

20           So with regard to Category 1 issues, the team  
21 reviewed the information that was provided in the  
22 environmental report; we discussed the information with the  
23 Entergy staff; we sought public concerns during public  
24 scoping meetings that were held last spring and also during  
25 the scoping process -- the scoping period, and we looked at

1 environmental standards and regulations.

2 We also looked at the 69 Category 1 issues and  
3 determined whether there was any new and significant  
4 information and, in fact, none was identified. And since we  
5 had no new and significant information, we relied upon the  
6 conclusions that were provided in the GEIS.

7 With regard to Category 2 issues, there are 21  
8 issues that fall under this designation. These are issues  
9 that are evaluated specifically and in depth at the site,  
10 and we did this for ANO, Unit 1. For the 21 issues there  
11 are five issues at ANO that are not applicable because they  
12 are related to plant design and features that are not  
13 characteristic of ANO.

14 In addition, there were four other issues related  
15 to refurbishment, and Entergy has stated that there are no  
16 plans for major refurbishment activities and, therefore,  
17 these issues were not relevant. That leaves 12 specific  
18 issues that we looked at specifically in relation to the ANO  
19 license renewal.

20 Then there are two additional issues that are not  
21 categorized; these are environmental justice and chronic  
22 exposure to EMF. We did also look at these in a  
23 site-specific manner.

24 Now that I've told you a little bit about the  
25 process we use for an evaluation, let me tell you a little

1 bit about the Draft Supplemental Environmental Impact  
2 Statement that was written after we had conducted our  
3 review. The organization of the ANO Supplemental  
4 Environmental Impact Statement, which I will call SEIS,  
5 follows the same organization as the Generic Environmental  
6 Impact Statement.

7 Chapter 1 is an introduction and it briefly  
8 describes the NEPA process. Chapter 2 is a description of  
9 the Arkansas site and the surrounding environment. I will  
10 be going back in a few minutes and talking specifically  
11 about some of these issues, but right now, if you will look  
12 at what we've got on the screen, you'll see that the issues  
13 that we looked at were rather comprehensive.

14 Chapter 3 discusses refurbishment, and since  
15 Entergy stated that any replacement of components related to  
16 the operation of the facilities and any additional  
17 inspection activities were within the bounds of normal plant  
18 component replacement and inspection and, therefore, would  
19 not be expected to be outside of the bounds of the final  
20 environmental impact statement.

21 Chapter 4 describes the environmental impacts of  
22 operation during license renewal. We specifically looked at  
23 Category 1 and Category 2 issues relevant to the plant and  
24 the site. We looked at impacts from cooling system,  
25 transmission lines, radiological impact, socioeconomic



1 impact, ground water use and quality and threatened and  
2 endangered species.

3 Chapter 5 discusses the postulated plant accidents  
4 and includes a review of severe accident mitigation which  
5 Mr. Andrew Kugler will describe in just a few minutes.

6 Chapter 6 looks at the completed -- looks at the  
7 uranium fuel cycle and solid waste management process and  
8 looks at the impact to the environment from the uranium fuel  
9 cycle. Chapter 7 looks at impacts from decommissioning.

10 Chapter 8 evaluates alternatives to license  
11 renewal and describes methods that can be used to obtain the  
12 same amount of power without having to renew the license at  
13 ANO. And finally, Chapter 9 is a summary of our  
14 conclusions.

15 Next, I'd like to give you an overview of the  
16 contents of the Supplemental Environmental Impact Statement,  
17 and so I will spend the rest of my time talking about our  
18 findings.

19 First, let me tell you a little bit about the  
20 cooling system at ANO. Unit 1 uses once-through cooling to  
21 condense steam during operation. It takes water from the  
22 Illinois Bayou on Lake Dardanelle, so for those of you that  
23 may not be familiar with the plant, the large cooling tower  
24 that you see from a distance is for Unit 2. As I said  
25 before, this license renewal is only for Unit 1.

1           The water is taken into the plant through an  
2 intake structure which includes bar grates, traveling  
3 screens and four circulating water pumps. After passing  
4 through the traveling screens, the water enters circulating  
5 pumps. After flowing through the condenser, the water is  
6 discharged back to Lake Dardanelle.

7           Now I'd like to discuss environmental effects from  
8 the cooling system used at ANO. In order to determine the  
9 effects from continued operation, we looked back at what had  
10 happened in the past, over the last twenty years. We  
11 reviewed many of the environmental studies that the utility  
12 and other organizations conducted over the past twenty  
13 years.

14           First, we looked at entrainment which occurs when  
15 platonic larval fish and shellfish existing in the Illinois  
16 Bayou are carried with the cooling waters through the intake  
17 screens, pumps and condensers; there's a high mortality to  
18 these larval fish. ANO conducted monitoring of entrainment  
19 for ten years, between 1977 and 1987, to determine if  
20 entrainment was impacting the fish population in Lake  
21 Dardanelle.

22           ANO determined that the most prevalent fish  
23 entrained were a nonsport fish, and that's the gizzard shad  
24 and the threadfin shad, which is the little fellow you see  
25 here on the slide. The monitoring performed at ANO

1 indicated that entrainment does not adversely affect aquatic  
2 organisms in Lake Dardanelle. In fact, the Arkansas Game  
3 and Fish Commission concluded that entrainment losses have  
4 not affected the recreational fishing in Lake Dardanelle.

5 Now in addition to entrainment we looked at  
6 impingement. Impingement is when small fish and shellfish  
7 get stuck in the traveling screens located at the intake.  
8 These screens are meant to keep out debris from cooling  
9 water, but sometimes smaller fish are also caught on them.  
10 Studies of impingement show that the major species are also  
11 the gizzard shad and the threadfin shad. These shad are  
12 nonsport fish, as I said, and they can get to be about ten  
13 inches long.

14 But what was found in the research was that, in  
15 fact, it was the cold temperatures in the winter at Lake  
16 Dardanelle that would kill the fish rather than the actual  
17 impingement, so a lot of times the fish taken in impingement  
18 were either dying or they were already dead. So it appears  
19 that much of the mortality is not directly related to the  
20 plant operation but is the result of the water temperature.

21 Now other cooling system effects that we looked at  
22 were heat shock. As I said, water is taken from Lake  
23 Dardanelle and it's used for cooling and then it's returned  
24 back to the lake. And when the water is discharged back to  
25 the lake, it must meet certain limits that are designated in

1 the National Pollutant Discharge Elimination System permit.  
2 We determined that ANO has a current permit and that they  
3 meet the discharge limits; therefore, the impact due to  
4 heat shock is considered small.

5           And in the last Category 2 item related to cooling  
6 system effects that we looked at was microbial organisms,  
7 specifically thermophilic pathogens, that is pathogens that  
8 love the heat, the higher temperatures. ANO took part in a  
9 study in 1981 in which it was determined that there's no  
10 thermophilic pathogens found in the ANO intake canal or the  
11 discharge embayment.

12           The Arkansas State Board of Health was contacted  
13 and they said that they were unaware of any human health  
14 exposure problems related to ANO in Lake Dardanelle.

15           We looked at transmission lines. There's 240  
16 miles connected to the transmission system, and related to  
17 transmission lines. We looked at acute electromagnetic  
18 fields effects, that is those effects that have immediate  
19 impact. And we also looked at chronic effects from  
20 extremely low frequency electromagnetic fields exposure. We  
21 found that there was no new and significant information  
22 related to these and, therefore, the impact is small.

23           I've talked a bit about radiological impacts  
24 already and explained why those are Category 1, so there's  
25 no anticipated increase in either public or occupational

1 radiation doses during license renewal.

2           At this time I'd like to see if anybody has any  
3 questions related to the information I've talked about so  
4 far. Okay, if not, I will move on.

5           Next, one of the larger areas that we looked at is  
6 socioeconomic impacts. And there's a variety of these  
7 impacts that I'm going to discuss. The first is housing  
8 impacts that may result if ANO hired additional employees  
9 during the license renewal period. ANO is considered to be  
10 in a low population area, and the area does not have any  
11 growth control measures; however, in our discussions Entergy  
12 stated that they do not plan to have any increased staffing  
13 related to licensing renewal activities and, therefore,  
14 there is no anticipated change in housing needs for ANO-1  
15 staff.

16           Our staff also interviewed real estate agent  
17 professionals in the area and concluded that the impact on  
18 housing during the license renewal period is small. Impact  
19 on public utilities was also considered, both for plant  
20 demand and plant related population growth. Entergy does  
21 not expect plant demand to have direct effect on water, and  
22 the water supply systems servicing the towns surrounding ANO  
23 are adequate and reliable. And, although not related to the  
24 operation at ANO, the city of Russellville is planning on  
25 doubling the current water treatment process capabilities.

1           We looked at offsite land use and determined that  
2 there will be no plant related impact. We'd like to point  
3 out, however, that continued operation of the plant will  
4 provide a significant continuing tax revenue to the county.  
5 ANO currently pays about one-third of the Pope County tax  
6 revenue.

7           We also looked at transportation impacts around  
8 the area and determined since there will be no increase in  
9 employment at the site that this is not an impact.

10           We looked at historic and archaeological resources  
11 related to the continuing operation of ANO. There is  
12 currently no plans for future area disturbances. We looked  
13 at the site and determined that there are many potential  
14 archaeological sites; these are both Native American and  
15 Euroamerican, but there are no nationally registered historic  
16 places on the site. An extension of the operating term,  
17 since there are no plans for future land disturbance for  
18 structural modification beyond routine maintenance,  
19 indicates that there is a small impact for continued  
20 operation.

21           Finally, in the area of socioeconomic impacts we  
22 looked at environmental justice. Environmental justice  
23 refers to a federal policy in which federal actions should  
24 not result in disproportionately high and adverse impacts on  
25 low income or minority populations. Although the impacts

1 that are identified for ANO-1 license renewal were small,  
2 the staff examined geographic distribution of minority and  
3 low income populations as were recorded in the 1990 census  
4 and supplemented with inquiries to local planning  
5 departments and social service agencies in Pope County.

6 We Found that in general minority populations are  
7 small and they're dispersed, and they are typically located  
8 in Russellville, Clarksville, Conway and the outskirts of  
9 Morrilton. Discussions with social service agencies in Pope  
10 County indicated that the Hispanic population has increased  
11 significantly in recent years. We identified no specific  
12 methods and pathways that would result in disproportionate  
13 adverse impact on these populations. And specifically we  
14 were looking at pathways related to subsistence agriculture  
15 and/or fishing.

16 Moving on we looked at water use and quality. ANO  
17 obtains cooling water from Lake Dardanelle and potable water  
18 and makeup water is obtained from the Russellville water  
19 treatment plant. The water quality is regulated by the  
20 NPDES permit.

21 We also looked at threatened and endangered  
22 species. We consulted with Fish and Wildlife Service and  
23 determined that there were no federally protected species on  
24 the ANO site or the transmission line rights-of-way. There  
25 are two endangered species in the area around the site; the

1 Gray Bat, which is found downstream, and the Interior Least  
2 Tern, which has a breeding ground to the west of the plant.  
3 But the staff concluded that the impact from continued  
4 operation is small.

5 We looked at the environmental impacts of the  
6 uranium fuel cycle -- these are all Category 1 issues -- and  
7 we assumed that the -- we concluded that the impacts were  
8 small as represented in the GEIS. We also did the same for  
9 decommissioning.

10 Next let's look at the alternatives to license  
11 renewal. This is Chapter 8 of the Supplemental  
12 Environmental Impact Statement, and this is another  
13 important part of the NEPA process. Because there are many  
14 possible energy sources and mixes of energy sources, we  
15 limited our analysis to those that have demonstrated  
16 capability of a sufficient generating capacity to replace  
17 the ANO nuclear plant. The alternatives also included a no  
18 action alternative, which would simply mean that NRC would  
19 not renew the operating license and that the plant would  
20 decommission either at the time the license expired in 2014  
21 or sometime before that.

22 Two alternatives that we looked at specifically  
23 were coal-fired power generation and gas-fired power  
24 generation. We looked at the impacts of these alternatives  
25 and discussed them in several different ways. First, we



1 looked at plants located at the ANO site using once-through  
2 cooling, like ANO, Unit 1, and we also looked at plants  
3 located at ANO but using cooling towers rather than  
4 once-through cooling.

5           We looked at the potential for closing the site  
6 and building an alternative energy plant somewhere else on  
7 what might be considered a green field site. That's a  
8 natural site that may be forested or otherwise has not been  
9 disturbed. We looked at the option of building a coal-fired  
10 plant or a gas- fired plant and the option of using  
11 once-through cooling or cooling towers.

12           This slide shows you some of the other  
13 alternatives that we looked at, but they were not evaluated  
14 in depth because they were either considered that they do  
15 not have the capability or the generating capacity to  
16 replace ANO.

17           One thing I'd like to point out is that we did  
18 look at combining alternatives, for example, using  
19 conservation, purchasing power and perhaps providing a new  
20 generation source.

21           The alternative actions, including no action  
22 alternative, have environmental impacts that, at least in  
23 some impact categories, reach moderate or large  
24 significance. And a moderate significance is one that is  
25 sufficient to alter noticeably but not destabilize important

1 attributes of the resource, or a large impact is one that  
2 the effect is clearly noticeable and is sufficient to  
3 destabilize important attributes of the resource. Rather  
4 than going through this entire analysis, I'd ask you to take  
5 a look at Chapter 8 in the SEIS.

6           For most impacts on land use and ecology we found  
7 a range of moderate to large, especially for coal-fired  
8 generation and gas-fired generation, because additional land  
9 would be required for these facilities, land that is  
10 currently vegetated. Depending on where the site is  
11 located, the impacts on water quality might increase to  
12 large, especially if it's located in an area that might  
13 require ground water for cooling.

14           Now finally, I would like to talk about our  
15 preliminary conclusion from our environmental analysis. We  
16 found that the significance of the environmental effects of  
17 license renewal of ANO-1 are small for all of the impact  
18 categories that we looked at. By small we mean that the  
19 effect is not detectable or it is too small to destabilize  
20 or noticeably alter any important attribute of the resource.

21           And that is the conclusion of my presentation.  
22 Are there any questions?

23           MR. CAMERON: Anybody? Okay, we do have one more  
24 presentation, and that's going to be Andy Kugler who's going  
25 to talk about postulated plant accidents, and then Tom

1 Kenyon is going to sum up for us. Andy.

2 MR. KUGLER: Thank you. As he indicated, my name  
3 is Andy Kugler and I'm an environmental project manager  
4 working in the same group at Tom Kenyon. Tonight I will be  
5 talking briefly about the process we use to evaluate the  
6 environmental impacts of accidents. During our review we  
7 looked at two different classes of accidents, design basis  
8 accidents and severe accidents.

9 Design basis accidents are accidents that have  
10 already been evaluated in the plant design. This is a  
11 Category 1 issue, as Eva just described what a Category 1  
12 issue is, and we did not find any new or significant  
13 information and, therefore, I don't intend to discuss that  
14 issue any further. We accepted the findings in the GEIS for  
15 that issue.

16 Now severe accidents involve one Category 2 issue,  
17 and that relates to the potential alternatives to mitigate  
18 severe accidents. And as a Category 2 issue, that means we  
19 require a plant-specific evaluation of that issue.

20 By way of an introduction to the issue, severe  
21 accidents are those accidents that lead to damage to the  
22 core related, in general, to some failure of the core  
23 cooling systems. This would involve multiple hardware  
24 failures and/or human errors in order to reach that point.  
25 These types of accidents are evaluated in the plant-specific

1 probabilistic safety studies.

2           There are two types of studies that are performed;  
3 there's one for internal events, things like pipe breaks,  
4 and then there's a study for external events, which would  
5 include things like seismic events. These studies form the  
6 basis then for our evaluation of potential alternatives to  
7 mitigate severe accidents.

8           In the generic environmental impact statement we  
9 considered severe accidents and the potential risk to the  
10 public from severe accidents. We projected the potential  
11 releases from the site caused by severe accidents, and we  
12 also then estimated the consequences to the public. In  
13 looking at that for all of the sites in this country, we  
14 concluded that the probability-weighted consequences of  
15 severe accidents were small at all sites. Based on that,  
16 severe accidents are a Category 1 issue, and we don't look  
17 at the severe accidents themselves in our environmental  
18 impact statement.

19           However, in accordance with the NEPA process, we  
20 also look at mitigation, and the mitigation of severe  
21 accidents is a Category 2 issue requiring the plant-specific  
22 evaluation, and that's what I will be speaking about this  
23 evening.

24           Now the purpose of our evaluation is to ensure  
25 that plant changes that could reduce the risk related to

1 severe accident are identified and then assessed to  
2 determine whether they should be implemented in the context  
3 of license renewal. We considered changes that would either  
4 prevent an accident from occurring or that would mitigate  
5 the consequences of an accident once it has occurred. And  
6 we look for various types of changes; we look for hardware  
7 changes, procedural changes, training, anything that could  
8 potentially reduce that risk so it's a very broad search.

9 I'd like now to talk a little bit about the  
10 process we went through; it's a fairly complex process, but  
11 I just want to give you the basics of what was done. The  
12 first step is to identify the sources of risk related to  
13 severe accidents, and to do this we rely very heavily on the  
14 plant-specific studies for ANO-1 of the risk profile. In  
15 addition we look for insights in generic studies that have  
16 been performed and in studies that were performed for other  
17 plant sites to look for other possible improvements.

18 Once we identify the sources of the risks, the  
19 next step was to identify any changes that could be made to  
20 reduce the risk. And again, we relied most heavily on the  
21 plant-specific studies to help us identify potential  
22 changes. In going through this process over 150 potential  
23 changes or improvements were identified.

24 In our next step we went ahead and eliminated  
25 changes that either had already been implemented at ANO-1 or

1 that were not applicable to ANO-1, keeping in mind we took a  
2 very broad approach to identifying potential changes, some  
3 of the changes, as it turns out, don't really apply to this  
4 plant.

5           Once we had done that, the remaining potential  
6 changes went through a process of developing the potential  
7 risk reduction and converting that into a value and  
8 developing a cost estimate.

9           Using that information we could quickly eliminate  
10 some of the changes as clearly not being cost beneficial.  
11 In other words, the cost far exceeded any benefit. This  
12 would include items that had a very low risk reduction -- in  
13 other words it didn't reduce the risk very much. At that  
14 point in the process we're down to about fifty items that  
15 could potentially be cost beneficial, and those items we  
16 reviewed in more detail, a more detailed cost estimate and a  
17 more detailed risk reduction estimate. And out of that  
18 process one item was identified as being cost beneficial;  
19 the other items were not cost beneficial.

20           Finally, looking at that one item, we also had to  
21 consider whether the risk reduction was related in any way  
22 to the effects of aging for the license renewal period  
23 because if it's not related to the aging issue, then it's  
24 not something that we're going to consider for license  
25 renewal.

1           The one item that was identified had to do with  
2 training for operators in response to specific sequences,  
3 what actions they should take, and it is not related to the  
4 effects of aging and, therefore, is not related to license  
5 renewal. Entergy is evaluating whether to implement that  
6 change, and we will look at the action that they decide to  
7 take in that regard. And as I indicated, the other  
8 potential enhancements all had negative cost benefit values.

9           So in conclusion, we determined that there were no  
10 additional plant changes necessary for ANO-1 during the  
11 license renewal period related to severe accident mitigation  
12 alternatives, and that concludes my portion of the  
13 presentation. Are there any questions?

14           MR. CAMERON: Okay, well let's -- thank you very  
15 much, Andy. Let's move on to Tom for a final wrap-up and  
16 then see if there's any statements from the audience and any  
17 other questions. Tom.

18           MR. KENYON: Thank you. And now to summarize,  
19 Supplement 3 to the GEIS provides a summary of the status  
20 review of ANO-1 and also gives you our preliminary  
21 conclusions. I'd just like to remind you that the decision  
22 to renew the ANO-1 license lies not only on the results of  
23 our environmental review but also on the safety review  
24 that's being directed by Mr. Prato.

25           This brings us to our preliminary conclusions

1 that, based on the analysis and the findings in the GEIS,  
2 Entergy's application and our discussions with the federal,  
3 state and local authorities and also the staff's own  
4 independent review, we would determine that the adverse  
5 effects, environmental impact of license renewal for ANO-1  
6 are not so great that preserving the option of license  
7 renewal for energy planning decision makers would be  
8 unreasonable. In other words, renewing the license for  
9 another twenty years would be acceptable from an  
10 environmental standpoint.

11 Now the period for writing us with your comments  
12 ends on January 4th. After the comment period ends, we'll  
13 take a look at all the comments and assess them and  
14 determine whether or not they're applicable to the  
15 environmental review. If appropriate, some of the comments  
16 may cause us to modify the Environmental Impact Statement,  
17 the final version of Supplement 3, we will -- in Appendix A  
18 to the document we will document a summary of what the  
19 comments were and how we address them throughout the  
20 document and how we disposition them.

21 Again, as we did with the issues that were raised  
22 during the scoping period, issues that do not have a bearing  
23 on the decision to renew the license will be referred to the  
24 appropriate NRC program manager, such as the Operating Plant  
25 Project Manager or the Allegations Coordinator.



1           Now this slide gives you the current schedule that  
2 we're working under. As I said, the comment period ends on  
3 January 4th, and we hope to issue the Final Environmental  
4 Impact Statement by July of next year.

5           Now the last two slides give you my phone number  
6 and NRC addresses. I am the designated point of contact for  
7 the environmental review, and you can contact me at that 800  
8 number. As was mentioned earlier, the Pendergraft Library  
9 at Arkansas Tech has been kind enough to allow us to make  
10 the application and the Draft Environmental Impact Statement  
11 available if you want to go over there and examine the  
12 document. In addition, you can view them electronically at  
13 the Website, either at that URL... or the documents can be  
14 reviewed at the NRC.gov site.

15           You could provide your comments to the chief of  
16 the Rules and Directives Branch, either by mail to  
17 that address, in person if you want to come out to  
18 Washington, D.C. or by e-mail. And that concludes our  
19 formal presentation.

20           Before we continue, I want to thank you for giving  
21 up your evening tonight and coming out to today's meeting.  
22 Public participation is an important part of the overall  
23 license renewal process because it makes for a better  
24 process. After all, you know this area a lot better than we  
25 do.

1           Before we open the floor to any last comments or  
2 questions, I would like to remind you -- to ask you to fill  
3 out the brief questionnaire that was mentioned earlier; it  
4 would help us to improve our future presentations. And if  
5 you need a pen or the questionnaires, you can obtain them  
6 from the folks in the back. Chip, that ends our formal  
7 presentation.

8           MR. CAMERON: Okay, I think we do have one  
9 comment. Garry Young.

10           MR. YOUNG: Thanks, Chip, and good evening. My  
11 name is Garry Young and I'm the Entergy lead for the license  
12 renewal project at Arkansas Nuclear One, and I'd like to  
13 take this opportunity to thank the NRC staff and their  
14 consultants who have worked on the ANO-1 Supplemental  
15 Environmental Impact Statement.

16           The document is both thorough and comprehensive in  
17 addressing the environmental topics that are important for  
18 consideration to the license renewal of Arkansas Nuclear  
19 One, and the range of topics and the level of detail clearly  
20 indicate NRC's diligence in preparing this document. It  
21 provides an excellent source of information for the public  
22 about the environment around Arkansas Nuclear One.

23           And I, along with many other Entergy employees,  
24 live here in Pope County. We enjoy living in this area and  
25 sharing the benefits of this community, and that is why we

1 share an interest with our neighbors in preserving the  
2 environment.

3           As indicated in the summary of the document, the  
4 option of license renewal for ANO-1 is reasonable from an  
5 environmental impact viewpoint, and this conclusion is  
6 consistent with the findings made by Entergy prior to making  
7 the decision to seek license renewal.

8           I would also like to thank the Entergy personnel  
9 and the consultants who have supported the licensing renewal  
10 activities that are the basis for the document that we're  
11 here today to discuss. This includes the employees who have  
12 supported the first 25 years of operation and who have  
13 maintained a high level of environmental awareness during  
14 those 25 years of operation. Without their commitment to  
15 continued safe, economic and environmentally friendly  
16 operation, we would not be here today seeking license  
17 renewal.

18           And finally, I would like to thank our neighbors  
19 in the community who are represented here today. And as I  
20 mentioned earlier, we, the Entergy employees that live in  
21 the community, appreciate the support of our local  
22 community, and we appreciate the opportunity to be your  
23 neighbors. We are committed to protecting the health and  
24 safety of the residents around Arkansas Nuclear One as well  
25 as the environment, and this commitment will continue as

1 long as we're a part of this community. Thank you.

2 MR. CAMERON: Thank you, Garry. Anybody else want  
3 to make a comment or ask any questions before we finish up  
4 this evening? I'd like to thank you all for coming out  
5 again tonight and thank Bert for taking our transcript down  
6 tonight. And that will be available on the Web; is that  
7 correct?

8 MR. GRIMES: Yes.

9 MR. CAMERON: And I guess we're going to adjourn  
10 now, Bert, so we're off the record.

11 (Whereupon, at 8:20 p.m., the meeting was  
12 adjourned.)

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