

UNITED STATES OF AMERICA

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NUCLEAR REGULATORY COMMISSION

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DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR DRESDEN NUCLEAR POWER STATION
Units 2 and 3 LICENSE RENEWAL

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BUILDING PUBLIC TRUST AND CONFIDENCE

WEDNESDAY

JANUARY 14, 2004

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MORRIS, ILLINOIS

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The Draft Environmental Impact Statement for
Dresden Nuclear Power Station, Units 2 and 3 License
Renewal Session met at Jennifer's Garden Banquet &
Convention Center, 555 West Gore Road at 7:00 p.m., Chip
Cameron presiding.

PRESENT:

Chip Cameron, Facilitator
John Tappert
John Eads
Duke Wheeler
Doug Bruce McDowell
Robert Palla
Patricia Milligan

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The NRC staff will host informal discussions one hour prior to each session. No comments on the draft EIS will be accepted during the informal discussions. To be considered, comments must be provided either at the transcribed public meetings (see agenda, above) or in writing, as described in the **Federal Register** notice.

P R O C E E D I N G S

(7:03 P.M.)

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3 MR. CAMERON: Good evening, everyone. My name's Chip
4 Cameron. I'm the Special Counsel for Public Liaison at the Nuclear
5 Regulatory Commission and I want to welcome all of you to the NRC's
6 public meeting tonight. And, tonight we're going to be discussing the
7 draft Environmental Impact Statement that the NRC prepared as part of
8 it's evaluation process on the request that we got from Exelon
9 Corporation to renew the operating licenses for the Dresden Nuclear
10 Power Plant, the Units 2 and 3, and I'm going to serve as your
11 facilitator tonight, and hopefully help all of you to have a
12 productive meeting.

13 In terms of the format for the meeting, it's basically a
14 two-part format where we're going to try to give you some information
15 about the license renewal process and about the preliminary
16 conclusions that we came to in the Draft Environmental Impact
17 Statement, and answer any questions that you might have about the
18 process or the Draft Environmental Impact Statement. And the second
19 part of the meeting is, gives us an opportunity to listen to you, any
20 comments, recommendations, advice that you might have on the Draft
21 Environmental Impact Statement issues for license renewal.

22 And we are taking written comments on these issues, and
23 the staff will be telling you a little bit more about the process for
24 submitting written comments. But, I just want to emphasize that any
25 comments that you make tonight will carry the same weight as a written

1 comment.

2 Ground rules are real simple, if you do have a question,
3 just signal me and I'll bring you this cordless microphone. Introduce
4 yourself to us and ask your question. We'll try to get you a clear
5 answer on that, and when we go to the formal comment part of the
6 meeting, I would ask you to either come up here and speak at the
7 podium or I will bring you this cordless microphone.

8 And, we're going to start out with a welcome, more
9 formal welcome from John Tappert who's the Chief of the Environmental
10 Section in our office of Nuclear Reactor Regulation, and I think we
11 should get right to that. John?

12 MR. TAPPERT: Thank you Chip. Good evening, everyone
13 and welcome, especially those new faces out there. I'd like to thank
14 you for coming out here tonight and participating in this process. As
15 Chip said, my name is John Tappert, and on behalf of the Nuclear
16 Regulatory Commission I'd like to thank you for coming out, again. I
17 hope that you find the information we will share with you tonight will
18 be helpful, and we look forward to receiving any comments that you may
19 have both today and in the future.

20 I'd like to start off by briefly going over the purposes
21 and agenda of tonight's meeting. We're going to begin with a brief
22 overview of the entire license renewal process, and this includes both
23 the safety review as well as an environmental review. And for this
24 environmental review, we're going to provide you the preliminary
25 results of our assessment of the environmental impacts associated with

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1 extending the operating licenses of Dresden 2 and 3 for an additional
2 20 years.

3 Then we'll give you some information about the schedule
4 for the balance of our review, and how you can submit comments in the
5 future. And then we get to the real heart of tonight's meeting, which
6 is to receive any comments that you may have tonight. But first, some
7 general context for the license renewal process itself. The Atomic
8 Energy Act gives the NRC the authority to issue operating licenses to
9 commercial nuclear power plants for a period of 40 years. For Dresden
10 ~~years~~ Units 2 and 3, those operating licenses will expire in 2009 and
11 2011, respectively.

12 Our regulations also make provisions for extending those
13 operating licenses, and Exelon has requested license renewal for both
14 units. As part of the NRC's review of that application, we are
15 developing an Environmental Impact Statement. Last April we had a
16 public meeting out here to seek your input early in our review
17 process. And as we indicated at that earlier scoping meeting, we
18 return here now, today, to present our preliminary findings. And
19 again, the purpose of tonight's meeting is to receive any comments
20 that you may have on that Draft Environmental Impact Statement.

21 And with that brief introduction, I'd like to ask Johnny
22 Eads to give us some more information about our safety review.
23 Johnny?

24 MR. EADS: Thanks John. My name is Johnny Eads, and I
25 am a, what's called a Safety Review Project Manager in the NRC's

1 License Renewal Section. The purpose of me being here today is to
2 describe very briefly, in fact in two slides, the license renewal
3 process as it is laid out for the NRC in our regulations.

4 But before I get to that discussion, let me mention the
5 mission of the Nuclear Regulatory Commission. For those of you who
6 are familiar with it, our mission is three-fold. First, to ensure
7 that adequate protection of health and safety, of the public, I'm
8 sorry, to ensure adequate protection of public health and safety.
9 Second, to protect the environment. And thirdly, to provide for
10 common defense and security. Those are the missions of the NRC.

11 As part of that mission, license renewal is a
12 significant portion. As you can see from this slide, the license
13 renewal process is made up of two portions, the safety review, and the
14 environmental review. This process is defined in the regulations
15 under a certain part in the regulations called, "Title 10, Part 54",
16 and it is very similar to the process used for the original licensing
17 of the ~~plan~~ plant. It includes a safety review, and environmental
18 review, and on-site confirmatory inspection, or series of those, and
19 finally an independent review by a body called the Advisory Committee
20 for Reactor Safeguards.

21 One important distinction to make between the original
22 licensing and the licensing here at renewal, is that in promulgating
23 the license renewal rule, the Commission determined that certain
24 aspects of the current licensing basis are adequately addressed by the
25 existing regulatory processes. Specifically I'm talking about things

1 like emergency planning and security. And that these current
2 regulatory processes will carry forward through this extended period
3 of operation for the additional 20 years.

4 Let me get into the detail on the next slide. This
5 slide is the next one, pictorial of how the license renewal process is
6 supposed to work, and lays out the coordinated efforts between the
7 environmental and the safety side. On the safety side, there are
8 really two paths, two parts to that. The first is at the top of the
9 page there, our confirmatory inspections. Out of our regional office,
10 we do three inspections as part of the license renewal effort.

11 Two of those inspections on Dresden have now been
12 completed. The third inspection is an optional inspection which can
13 be scheduled if we need follow-up. In the case of Dresden, we do have
14 a few items to follow-up on, and so we have a third inspection
15 scheduled. Results of those inspections, by the way, are written in
16 inspection reports, and those inspection reports can be found on the
17 NRC's website. For those of you who don't know, you'll hear more
18 about it tonight, but it's www.nrc.gov and particularly there's a
19 system called Adams, and there's some instructions on the table of
20 information in the back about how to access Adams.

21 The second on this slide, in the middle there, is the
22 safety review, itself. That's a detailed safety evaluation of the
23 application submitted by the folks here at Dresden. We have in our
24 headquarters a team of approximately 30 individuals who are viewing
25 that document for adequacy. As part of that review, and it's not just

1 a headquarters in the office review, we also send out teams into the
2 field to do audits. And those audits are similar to inspections, but
3 they are different.

4 An audit out of headquarters is, team that comes out,
5 does a paperwork review, but does it on site to look at the backup
6 documents that you might not normally see sitting back in the
7 headquarters. The safety review itself focuses on the applicants
8 proposed aging management programs for those systems, structures, and
9 components that are determined to be within the scope of the license
10 renewal rule.

11 It's important that these aging management programs are
12 effective in maintaining an adequate level of safety during this
13 extended period of operation. So ~~accessing~~ assessing the
14 effectiveness of these aging management programs is a key aspect to
15 the sites, for the NRC's safety review.

16 Another piece of the safety review is called the Time
17 Limited Aging Affects, TLAA's. Again, the commission is full of
18 acronyms, but this particular acronym deals with gauging plant aging
19 beyond the original scope forty years. In other words, the license
20 renewal rule requires that the applicant, to reevaluate those design
21 analyses that assume forty years of plant operation, and re-look at
22 those evaluations for an extended period of time for the full sixty
23 years.

24 As an example, a Time Limited Aging Analysis would be
25 required on things like, called, environmental qualification of

1 electrical equipment and components to make sure that they're expected
2 to survive and function following, during and following the design
3 basis -- to the end of their qualified life. So TLAA's are a
4 significant portion of our review.

5 The entirety of this safety review is all documented in
6 the staff's safety evaluation report. The safety evaluation report is
7 a fairly thick document, and provides the conclusions out to the
8 public as to what we found as part of our review. That document is
9 also forwarded to this independent review body that I mentioned
10 before, called the Advisory Committee on Reactor Safeguards. This
11 advisory body is made up of scientists and experts in the field who
12 report independently from the NRC staff to the NRC commission.

13 After they've met and discussed and reviewed the safety
14 evaluation prepared by the staff, they'll make a recommendation in the
15 form of a letter to whoever in the agency is making the decision on
16 the application itself. The ACRS does provide the opportunity for
17 public involvement, and if there is any interest, if wish to, you
18 could actually submit formal comments to the ACRS as part of their
19 review of the safety evaluation done by the NRC's technical staff.

20 The last piece which is described there is, there's a
21 final opportunity for a public hearings. You'll see that just before
22 we get to the agency decision. If a, an individual shows standing and
23 requests the opportunity to participate in a hearing, the hearing is
24 scheduled, and this hearing is run by, usually a three-panel
25 administrative judge, ~~a~~ ~~judicatory~~ an adjudicatory hearing process.

1 In that case, it's a setup where, basically lawyers argue points of
2 law, and the bottom line is any technical issues are finally resolved,
3 again, to this independent administrative judge panel. And they too
4 make a recommendation on whether the application should be approved or
5 not.

6 The last piece there at the bottom, I'll just mention,
7 that's the environmental review. And that's what we're here doing
8 tonight. And I'm going to leave that to Duke Wheeler to describe in
9 more detail what is included in that process. I guess in summary, as
10 you look to the right on this slide, all of those activities culminate
11 in an agency decision. The application that we received from Exelon
12 arrived on January 3rd of 2003. This entire process should take,
13 without hearings, would take approximately 22 months to complete.
14 Using that schedule, we would anticipate that the Dresden application,
15 a decision on that application, would be made in the time frame of
16 November of this year. So with that, I'm ready to answer questions,
17 or turn it over to Duke to cover the environmental part.

18 MR. CAMERON: Let's go to Duke for environmental and
19 then we'll go out to see if there's any questions on the process part
20 of this, and then we'll go to the findings in the draft EIS. Duke?

21 MR. WHEELER: Thank you. My name is Duke Wheeler, and I
22 am an Environmental Project Manager on the NRC staff, and my
23 responsibility here is to coordinate the efforts of the NRC staff, and
24 the efforts of a team from, composed of people at National
25 Laboratories who have expert knowledge in various environmental

1 disciplines who help us in preparing the Environmental Impact
2 Statement. My responsibility is to coordinate all that activity.

3 The National Environmental Policy Act of 1969 requires a
4 systematic approach in evaluating the impacts of proposed, major
5 federal actions. Consideration is to be given to the environmental
6 impacts of the proposed action and mitigation for any impacts that are
7 believed to be significant. Alternatives, including taking no action
8 on the applicants request, are also to be considered.

9 Our Environmental Impact Statement is a disclosure tool,
10 and it involves public participation. Our NRC regulations require
11 that an Environmental Impact Statement be prepared for proposed
12 license renewal activities. Could I have that slide? This slide is
13 basically our decision standard that's toward the bottom line, if you
14 will, that comes out of our Environmental Impact Statement activities.
15 And basically, it asks the question, "Are the environmental impacts of
16 the proposed action great enough that maintaining the license renewal
17 options for Dresden Units 2 and 3 becomes unreasonable."

18 When Johnny Eads had a slide up a few moments ago that
19 showed the overall process that we go through in evaluating a
20 application for license renewal, he did steer your attention toward
21 the bottom line of his chart, and this slide is just an expansion of
22 that slide. And, basically, where we are in the process now, Exelon
23 did submit their application for license renewal to the NRC staff on
24 January the 3rd of 2003. And we put formal notice in the federal
25 register that we would then prepare an Environmental Impact Statement

1 associated with that application.

2 We went through what is known as a scoping process which
3 does involve public participation. And the purpose of that process is
4 basically to scope out, if you will, early in the process, what the
5 bounds of our environmental evaluation should be for the various
6 disciplines that we take a look at. We also brought out team of
7 experts from the laboratory out to the site to walk the grounds,
8 review a substantial volume of documentation at the site, and to
9 interview site personnel. We did that in March of 2003.

10 If, after all that activity, we still don't have all the
11 information that we need to prepare a Draft Environmental Impact
12 Statement, we will send out a formal request for additional
13 information to Exelon, and we did that on May the 30th. After we get
14 the answers back to the request for additional information, and taking
15 a look at all the information that we have available to us now, we
16 prepare and issue a draft of our Environmental Impact Statement, and
17 we issue it for the purpose of receiving public comment on that draft.

18 We did that in early December, 2003, about five weeks
19 ago, and the public comment for that, we're presently in the middle of
20 it, the public comment period will expire about 5 weeks from now.
21 I'll get into that later. Once we get all the public comments in, to
22 include what we receive at this meeting, then we will evaluate all of
23 that, and publish a final Environmental Impact Statement. And our
24 schedule presently provides that for this project, the final
25 Environmental Impact Statement to be published in July, 2004.

1 For the moment, that completes my remarks, and if
2 there's any questions, I'd be happy to entertain them or turn it over
3 to Chip.

4 MR. CAMERON: Great. Let's see if there are some
5 questions about the, the process information that we gave you. Is it
6 clear what the difference is between the environmental part of the
7 review and the aging review? Are there any questions about that? I
8 guess the one thing I would clarify is that Johnny Eads spoke of a
9 public hearing, and in NRC practice, a public hearing is an
10 adjudicatory hearing, it's a trial-type hearing, as opposed to a
11 public meeting such as this.

12 Some agencies call public meetings like this, they call
13 them public hearings, and I just want to make sure that you know that
14 when we use the terminology public hearing, it's an adjudicatory
15 hearing with very, very strict requirements for who can participate
16 and how they can participate. All right. We're going to go to the
17 substantive findings in the Draft Environmental Impact Statement and
18 we have Mr. Bruce McDowell with us, and Bruce is the team leader of
19 the group of experts that we use to help us prepare the Draft
20 Environmental Impact Statement. He's from Lawrence Livermore Lab in
21 California. Bruce?

22 MR. McDOWELL: Good evening. As Chip said, I work for
23 the University of California at the Lawrence Livermore National
24 Laboratory. The NRC contracted with us to provide the expertise
25 necessary to evaluate the impacts of license renewal at Dresden. My

1 team consists of nine members from the Lawrence Livermore National
2 Laboratory, Los Alamos National Laboratory, and in New Mexico, the
3 Pacific Northwest National Laboratory in Washington, and the Argon
4 Argonne National Laboratory down the road here, in Illinois.

5 The expertise that we provided for plant re-licensing,
6 and for alternatives, is shown on the slide. Atmospheric Science,
7 Socio Economics, Archeology, Terrestrial Ecology, Aquatic Ecology,
8 Land Use, Radiation Protection, Nuclear Safety and Regulatory
9 Compliance. In the mid-1990's the NRC was faced with a prospect of
10 having to prepare Environmental Impact Statements for re-licensing the
11 majority of the operating nuclear plants in the United States. The
12 NRC decided to tackle this problem in two ways.

13 First, the NRC decided to evaluate the impacts of all
14 plants across the entire country, to determine if there were impacts
15 that were common to all operating plants. The NRC looked at 92
16 separate issues and impact areas, and found that for 69 issues, the
17 impacts were the same for all plants with similar features. The NRC
18 called these Category I issues, and made the same or generic
19 determinations about their impacts, and the generic Environmental
20 Impact Statement for license renewal. The generic EIS was issued by
21 the NRC in 1996.

22 Second, NRC found that they were not able to make
23 generic conclusions about the remaining issues. For these issues,
24 which the NRC called Category II issues, the NRC decided to prepare
25 site-specific supplements to the generic EIS. The Dresden supplement

1 is what you have before you today. Now, the NRC did not rule out the
2 possibility that their generic conclusions may not apply to any
3 specific plant.

4 As part of our approach, my team looked at Category I
5 issues applicable to the Dresden plant to determine if there was any
6 new information related to the issue, that might change the
7 conclusions that the NRC reached in 1996. If we found no new
8 information, then our approach was to adopt the conclusions of the
9 generic EIS. If new information was identified, and determined to be
10 significant, either about a Category I issue or a new issue that
11 hadn't been looked at before, then my team would perform a site-
12 specific analysis for that issue.

13 Now this little bit of history is important because it
14 lays out the approach that my team used here at Dresden. For Category
15 I issues the impacts are the same at all sites. Is there any new and
16 significant information? If no, we adopt the generic conclusions of
17 the generic EIS. If yes, we perform a site-specific analysis. For
18 Category II issues we always perform a site-specific analysis. And
19 for potential new issues, we determine whether or not the new issue
20 could be validated and if yes, we perform a site-specific analysis.
21 Again, this is the approach we used at Dresden.

22 For each environmental issue identified, an impact level
23 is assigned. For small impact, the affect is not detectable or too
24 small to destabilize or noticeably alter any important attribute to
25 the resource. For moderate impact, the affect is sufficient to alter

1 noticeably, but not destabilize important attributes at the end
2 resource. And finally, for an impact considered large, the affect
3 must be clearly noticeable and sufficient to destabilize important
4 attributes of the resource.

5 I'm going to use these, use the fishery in the Illinois
6 River to illustrate how we use these three criteria. The operation of
7 the Dresden plant may cause the loss of adult, juvenile fish at the
8 intake structure. If the loss of fish is so small that it cannot be
9 detected in relation to the total population in the river, the impact
10 would be small. If losses cause the population to decline and then
11 stabilize at a lower level, the impact would be moderate. If the
12 losses cause the population to continue to decline, then the impact
13 would be considered large. These criteria are consistent with the
14 Counsel on Environmental Quality Guidance.

15 When my team evaluated the impacts from continued
16 operations at Dresden, we considered information from a wide variety
17 of sources. We considered what the licensee had to say in their
18 environmental report. We conducted a site audit during which we
19 toured the site, interviewed plant personnel, and reviewed
20 documentation of the plant operations. We also talked to federal,
21 state, and local officials, as well as local service agencies. And
22 lastly, we considered all of the comments received during the public
23 scoping period last Spring. These comments were listed in the --
24 along with the NRC's responses.

25 This body of information is the basis for the analysis

1 and the preliminary conclusions that are presented in this Dresden
2 supplement. The central analysis in the Dresden supplement are in
3 chapters 2, 4, 5 and 8. In chapter 2 we discuss the plant, it's
4 operation, and the environment around the plant. In chapter 4 we
5 looked at the environmental impacts of routine operations during the
6 20 year license renewal term. My team looked at issues related to the
7 cooling system, transmission lines, radiological impacts,
8 socioeconomic impacts, groundwater use and quality, threatened or
9 endangered species, and accidents.

10 Chapter 5 contains an assessment of accidents. And, at
11 this point, I'd like to make an important distinction. Environmental
12 impacts from the routine day-to-day operations of the Dresden Plant,
13 for another 20 years, are considered separately from the impacts that
14 could result from potential accidents during the license renewal term.
15 I'll discuss the impacts from the routine operations, and the next
16 presenter will talk about the accidents. Chapter 8 describes
17 alternatives to the proposed license and their environmental impacts.

18 One of the issues we looked at closely at Dresden, is
19 the cooling system. This slide shows the layout of the cooling system
20 and the discharge canals. The issues that the team looked at on a
21 site-specific basis include water use conflicts, entrainment and --
22 fish and shellfish, heat shock, and enhancement of microbiological
23 organisms. What we found was that the potential impacts in these
24 areas were small, and addition mitigation is not warranted.

25 Now there are a number of Category I issues that are

1 also related to the cooling system. These include issues related to
2 discharges of sanitary waste, minor chemical spills, -- and chlorine.
3 Now recall, as a Category I issue, the NRC has already determined that
4 these impacts are small. My team evaluated all information that we
5 were able to find, to see if there was any information that was both
6 new and significant to this issue. We did not find any, and therefore
7 we adopted the NRC's conclusions that the impact of the cooling system
8 is small.

9 Radiological impacts are a Category I issue. And again,
10 the NRC has made a generic determination that the impact of
11 radiological releases during nuclear plant operations during the 20
12 year license renewal period are small. But because these releases are
13 a concern, I wanted to go into a little bit of detail. Nuclear plants
14 are designed to release radiological effluents to the environment.
15 Dresden is no different than other plants in Dresden releases
16 radiological effluents to the environment. During our site visit, we
17 looked at the effluent release and monitoring documentation, we looked
18 at how the gasses and liquid effluents were treated and released, as
19 well as how solid waste were treated, packaged, and shipped.

20 We looked at how the applicant determines and
21 demonstrates that they are in compliance with regulations for releases
22 of radiological effluents. We also looked at data from onsite and
23 near-site locations that the applicant monitors for airborne releases
24 and direct radiation, and other monitoring stations beyond the site
25 boundary, including locations where water, milk, fish, and food

1 products were sampled.

2 We found that the maximum calculated dose, doses for a
3 member of the public, are well within the annual limits. Now there's
4 a near unanimous consensus, within the scientific community, that
5 those limits are protective of human health. Since releases from the
6 plant are not expected to increase on a year-to-year basis, and since
7 there's no new and significant information, we adopted the generic
8 conclusion that the impacts of radiological releases are small.

9 There are two terrestrial species listed as threatened
10 or endangered that could occur in the range of the Dresden site, and
11 the transmission lines. These are the bald eagle and the Indiana bat.
12 During winter migration, bald eagles visit open water caused by the
13 plants thermal discharges. Since these areas provide foraging areas
14 when other water bodies are frozen, the plant's operation could
15 actually be considered a beneficial impact to eagles. The Indiana bat
16 could occur in the counties where the plant transmission lines are
17 located. But since the licensee does not plan any refurbishment or
18 construction activities as part of re-licensing, the natural areas
19 where these species could be found would not be disturbed.

20 This would be true for the threatened plant species
21 also, the Eastern Prairie Fringed Orchid. The only federally listed
22 aquatic species that currently occurs in the vicinity of the Dresden
23 site, is the Hines Emerald Dragonfly. One population has been
24 documented within four kilometers of the Des Plaines River, upstream
25 from the Dresden site. There are no known populations in the vicinity

1 of the Dresden site.

2 And based on this, during the staff, the staff's
3 preliminary determination is that the impact of the operation of the
4 Dresden plant, during license renewal period, on threatened and
5 endangered species is small.

6 The last issue I'd like to talk about from Chapter Four
7 is cumulative impacts. These are impacts that are minor when
8 considered individually, but significant when considered with other
9 past, present, or reasonably foreseeable future actions, regardless of
10 what agency or person undertakes those actions. The staff considered
11 the cumulative impacts resulting from the operation of the cooling
12 system, operation of the transmission lines, releases of radiation and
13 radiological material, socioeconomic impacts, groundwater use and
14 quality impacts, and threatened and endangered impacts, endangered
15 species impacts.

16 These impacts were evaluated to the end of the 20-year
17 license renewal term, and I'd like to note that the geographical
18 boundary of the analysis was dependant upon the resource, for
19 instance, the area analyzed for the transmission lines was different
20 than the area analyzed for the cooling water system. Our preliminary
21 determination is that any cumulative impacts resulting from the
22 operation of the Dresden plant during license renewal period would be
23 small.

24 The team also looked at uranium fuel cycle and solid
25 waste management, and decommissioning. All issues for uranium fuel

1 cycle and solid waste management, as well as for decommissioning, are
2 considered Category I. And for these issues, we found no new and
3 significant information, and therefore we adopted the generic
4 conclusions of the generic EIS.

5 In 2001, Dresden generated about 13 billion kilowatts of
6 electricity. My team also evaluated the potential environmental
7 impacts associated with the Dresden plant not continuing operation,
8 and replacing this generation with alternative power sources. The
9 team looked at the no action alternative, new generation coal-fired,
10 gas-fired, or new nuclear, purchased power, alternative technologies
11 such as wind, solar, hydro power, and then from a combination of
12 alternatives.

13 For each alternative, we looked at the same type of
14 issue. For example, water use, land use, ecology, and socio economics
15 that we looked at for the operation of Dresden during the license
16 renewal term. And for two alternatives, solar and wind, I'd like to
17 describe the scale of the alternatives that we considered, because
18 scale is important in understanding our conclusions. First solar.

19 Based on the ever [[?]] solar energy available in
20 Illinois, and the current conversion efficiency as the solar cells,
21 these cells would produce about 100 kilowatts per square meter per
22 year. As such, about 120 million square meters, or about 46 square
23 miles of cells would be required to replace the generation from the
24 Dresden plant.

25 Regarding wind power, wind turbans turbines have a,

1 capacity factors of between 30 and 35 percent. As such, 42 hundred
2 megawatts of wind power would be needed to replace Dresden's 1,800
3 megawatts. And to put this into context, in 2002, the total wind
4 power capacity in the United States was 4,500 megawatts. In other
5 words, the total wind power in the United States would have to double
6 from the 2002 number to replace Dresden's output. Now due to the
7 scale of these reasonable alternatives, the team's preliminary
8 conclusion is that ~~they're~~ their environmental impacts, at least in
9 some categories, reach moderate or large significance.

10 So to reiterate, in 1996, the NRC reached generic
11 conclusions for 69 issues related to operating nuclear plants for
12 another 20 years. For Category I issues, my team looked to see if
13 there was any information that was both new and significant, and
14 whether or not we could adopt the generic conclusions. For the
15 remaining Category II issues, and for validated new issues, my team
16 performed an analysis specifically for the Dresden site.

17 For the 69 Category I issues presented in the generic
18 EIS that relate to Dresden, we found no information that was both new
19 and significant, therefore, we have preliminarily adopted the
20 conclusion that the impact of these issues is small. Our team
21 analyzed the remaining Category II issues in this supplement, and we
22 found that the environmental affects resulting from these issues were
23 also small. During our review, my team found no issues that were not
24 already known. Last, we found that the environmental affects of
25 alternatives, at least in some impact categories, reached moderate or

1 large significance.

2 Now I'd like to turn it back to Chip and see if there's
3 any questions.

4 MR. CAMERON: Okay. Thanks, Bruce. As you can see, the
5 Draft Environmental Impact Statement looked at a lot of different
6 areas. Is there any questions in regard to the preliminary findings
7 on alternatives, on what the difference is between small, moderate,
8 large impacts? Anything on that? Okay. As Bruce had intimated, the
9 Draft Environmental Impact Statement not only looks at routine
10 releases, but it also looks at accidents. And we have Mr. Bob Palla
11 from the NRC staff who's going to talk about something called Severe
12 Accident Mitigation Alternatives. Bob?

13 MR. PALLA: Good evening. My name is Bob Palla. I'm
14 with the Probabilistic Safety Assessment Branch of NRC, and I'll be
15 discussing the environmental impacts of -- related accidents. These
16 impacts are described in Section V of the Generic Environmental Impact
17 Statement, also known as the GEIS. The GEIS evaluates two classes of
18 accidents, design-basis accidents, and severe accidents. Design-basis
19 accidents are those accidents that both the licensee and the NRC staff
20 evaluate to ensure that the plant can safely respond to a broad
21 spectrum of -- related accidents without risk to the public.

22 The environmental impacts of design-basis accidents are
23 evaluated during the initial licensing process and the ability of the
24 plant to withstand these accidents has to be demonstrated before the
25 plant is granted a license. More importantly, a licensee is required

1 to maintain an acceptable design and performance capability throughout
2 the life of the plan, including any extended life operation. Since
3 the licensee has to demonstrate acceptable performance for the design-
4 basis accidents throughout the life of the plant, the Commission has
5 determined that the environmental impact of design-basis accidents are
6 of small significance.

7 Neither the licensee nor the NRC is aware of any new and
8 significant information on the capability of the Dresden plant to
9 withstand design-basis accidents. Therefore the staff concludes that
10 there are no impacts related to design-basis beyond those already
11 discussed in the GEIS.

12 The second category of accidents evaluated in the GEIS
13 are severe accidents. Severe accidents are, by definition, more
14 severe than design-basis accidents because they could result in
15 substantial damage to the reactor core. The Commission found in the
16 GEIS, that the risk of a severe accident, in terms of atmospheric
17 releases, fall out on to open bodies of water, releases to ground
18 water, and societal impacts are all small for all plants.

19 Nevertheless, the Commission determined that alternatives to mitigate
20 severe accidents must be considered for all plants that have not done
21 so. We refer to these alternatives as Severe Accident Mitigation
22 Alternatives, or SAMA's for short.

23 The SAMA evaluation is a site specific assessment, and
24 it is a Category II issue, as explained earlier. The SAMA review for
25 Dresden is summarized in Section 5.2 of the GEIS supplement, and is

1 described in more detail in appendix G of the supplement. Now the
2 purpose of performing the SAMA evaluation is to ensure that plant
3 changes with the potential for improving severe accident safety
4 performance are identified and evaluated. The scope of potential
5 plant improvements that were considered, included hardware
6 modifications, procedure changes, training program improvements, as
7 well as other changes.

8 Basically a full spectrum of potential changes. The
9 scope includes SAMA's that would prevent core damage as well as SAMA's
10 that would improve containment performance, given that a core damage
11 event occurs.

12 The SAMA evaluation consists of a four-step process
13 described in this slide here. The first step is to characterize
14 overall plant risk and leading contributors to risk. This typically
15 involves extensive use of the Plant-specific Probabilistic Risk
16 Assessment study which also known as the PRA. The PRA is a study that
17 identifies the different combinations of system failures and human
18 errors that would be required to occur in order for an accident to
19 progress to either core damage, or containment the failure.

20 Second step in the evaluation is to identify potential
21 improvements that could further reduce risk. The information from the
22 PRA, such as the dominant accident sequences, is used to help identify
23 plant improvements that would have the greatest impact in reducing
24 risk. Improvements identified in other NRC and industry studies, as
25 well as SAMA analysis for other plants, have also been considered.

1 The third step in the evaluation, is to quantify the
2 risk reduction potential in the implementation costs for each
3 improvement. The risk reduction and the implementation costs for each
4 SAMA are typically estimated using a bounding analysis. The risk
5 reduction is generally overestimated, by assuming that the plant
6 improvement is completely effective in eliminating the accident
7 sequences it is intended to address. The implementation costs are
8 generally underestimated, by neglecting certain cost factors such as
9 maintenance costs and surveillance costs associated with the
10 improvement. The risk reduction and cost estimates are used in the
11 final step, to determine whether implementation of any of the
12 improvements can be justified.

13 In determining whether an improvement is justified, the
14 NRC staff looks at three factors. The first is whether the
15 improvement is cost beneficial. In other words, is the estimated
16 benefit greater than the estimated implementation cost of the SAMA?
17 The second factor is whether the improvement provides a significant
18 reduction in total risk. For example, does it eliminate a sequence or
19 a containment failure mode that contributes to a large fraction of
20 plant risk. The third factor is whether the risk reduction is
21 associated with aging affects during the period of extended operation,
22 in which case, if it was, we would consider implementation as part of
23 the license renewal process.

24 The preliminary results of this Dresden SAMA evaluation
25 are summarized on this slide. 265 candidate improvements were

1 identified through for Dresden based on review of the plant specific
2 PRA, relevant industry and NRC studies on severe accidents, and SAMA
3 analyses performed for other plants. Exelon reduced this to a set of
4 12 potential SAMA's based on a multi-step screening process. Factors
5 considered during this screening included whether the SAMA is not
6 applicable to Dresden due to design differences whether it would
7 involve major plan modifications that would clearly exceed the maximum
8 obtainable benefit, or and whether it would provide only minimum risk
9 reduction based on review of the PRA.

10 A more detailed assessment of the conceptual design and
11 costs was then performed for each of the 12 remaining SAMA's. This is
12 described in detail in Appendix G of the GEIS supplement. The cost
13 benefit analysis shows that none of the SAMA's are cost beneficial
14 when evaluated in accordance with NRC guidance for performing
15 regulatory analyses. This slide doesn't tell the whole story. If you
16 look in the Appendix G, the detailed evaluation, you'll see that the
17 staff did identify 2 SAMA's that could potentially become cost
18 beneficial given a more detailed assessment of their benefits in
19 external events, such as large fires within the plant, or when
20 uncertainties in the analysis are taken into account.

21 These involve, these SAMA's involve development of plant
22 procedures to use injection systems in the second plant as a backup
23 source of water for the containment sprays, and procedures to realign
24 the low-pressure core injection systems to the condensates storage
25 tank upon loss of suppression pool cooling. These SAMA's do not

1 relate to adequately managing the effects of aging during the period
2 of extended operation, therefore they need not be implemented as part
3 of license renewal.

4 However, given the potential risk reduction, and the
5 relatively low implementation costs of these two SAMA's, the staff
6 concludes that further evaluation of these SAMA's by Exelon would be
7 warranted. This will be pursued as an operating plant issue under the
8 current operating license rather than as a license renewal issue.

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

12 MR. CAMERON: Okay. Thanks, Bob. Any questions on this
13 Severe Accident Mitigation business? Bob, I take it that all of the
14 12 are described? The 12 potential modifications are described in
15 detail?

16 MR. PALLA: They're all described in detail in
17 Appendix G.

18 MR. CAMERON: Okay. We have a, Duke is just going to do
19 a summary.

20 MR. WHEELER: Thank you, Chip. To summarize, what we've
21 determined is that the impacts of license renewal are small for all
22 the impact areas that we evaluated. And for the alternatives that we
23 evaluated, the impacts range anywhere from small to large. Our
24 preliminary recommendation is that the adverse impacts of license
25 renewal for Dresden Units 2 and 3, are not so great that keeping the

1 license renewal option open becomes unreasonable. Can I have the
2 slide, please?

3 This slide just gives you a little bit of information on
4 where we are in the process. As I had mentioned earlier, we did
5 publish the Draft Environmental Impact Statement in early November, or
6 I'm sorry, early December, on December the 2^d, and then when EPA
7 published their notice of filing a short time later, that started a
8 75-day comment period. We're pretty much in the middle of that period
9 of time right now. That comment period began on December the 12^h,
10 2003, and it will end on February the 24th, 2004. And as I had
11 mentioned earlier, our schedule provides for the final Environmental
12 Impact Statement to be issued in July of 2004. Next slide, please.

13 This slide just identifies myself as your primary point
14 of contact with the NRC staff should you have any questions or
15 comments regarding the process that we're going through. Also note
16 that I did place copies of the Environmental Impact Statement at a
17 couple of local libraries, the Morris County Library and also the Coal
18 City Public Library.

19 But we also put our Draft Environmental Impact Statement
20 on our website so that it may be accessed through that means. And
21 there is a link to do that on the slide. I know that it looks like
22 kind of a long, drawn-out link, but it works. I've tried it. And you
23 should have no problems with it. But, in the event that you do, my
24 strong recommendation is that you just give me a call at the number
25 that's on this slide, and we'll go through it until we can get the

1 problem resolved, and you can have access to the document.

2 If, by chance, I'm unable to resolve the problem and we
3 get all wrapped around the axle, the NRC also has a help desk with
4 experts in our system, and we can bring them into the conversation,
5 and they will make sure that we get your problem resolved so that you
6 can access it through the Internet. Slide please? In addition to
7 sending copies to the, correction, this slide just provides means of
8 providing comments to the NRC staff, in addition to this public
9 meeting.

10 You can always send comments to the NRC staff just by
11 conventional mail, in a letter. We do ask that you send it to the
12 Chief of our Rules and Directives Branch at the address on this slide,
13 and that will guarantee that your comments are made a matter of public
14 record. If you were to send your comments straight to me on the NRC
15 staff, I would send a copy over to Rules and Directives Branch and
16 they would take care of getting your comments into the public record.

17 Although it may not be all that practical for a plant
18 here in the Midwest, I am nevertheless available if somebody's in the
19 vicinity of our headquarters office in Rockville, Maryland. If you
20 want to come by and provide comments, you're certainly welcome to do
21 that. I would ask that you bring your comments in written form
22 though, because it's important to me that I capture all the comments
23 in some one form of documentation or another. These comments will be
24 included in the final Environmental Impact Statement being published
25 in July, and there will also be a discussion of how we address those

1 comments. So, just the spoken word that disappears into thin air is
2 really something that I choose not to deal with.

3 You may also send comments in by e-mail, and I've
4 established a specific e-mail address at the NRC for the purpose of
5 receiving your comments on the Draft Environmental Impact Statement at
6 dresdeneis@nrc.gov. I'm the one that answers that website, I'll
7 typically check it out about two or three times a day. If I'm out of
8 the office, there's a few people who back me up on the project, and
9 they also check this e-mail. So that's also available to you.

10 This concludes my prepared remarks, and if there's no
11 questions, I'd like to turn the meeting back over to Chip.

12 MR. CAMERON: Any questions on where, when to submit
13 comments? Okay. We're going to --

14 MR. WHEELER: Thank you.

15 MR. CAMERON: Thank you, Duke. Where's going to go to
16 Mr. Robert Schwartz from the Boilermakers Union Local to talk to us.
17 Why don't you join, do you want to join us at the podium?

18 MR. SCHWARTZ: Wherever you would like.

19 MR. CAMERON: Why don't you come up there. Then
20 everybody can see you.

21 MR. SCHWARTZ: Thank you. I'm Robert Schwartz. I live
22 at 304 Northbrook Shore Drive in Shorewood, Illinois, which is
23 directly Northeast of the Dresden Nuclear Station, less than 8 miles
24 downwind. I've lived there all my life, my family and friends have
25 lived in the area of Dresden, and we feel that the environmental

1 impacts of Dresden are insignificant. None of my family or any family
2 or friends that I know of have any detrimental sicknesses or maladies
3 from anything that is resulted from Dresden.

4 I also represent several hundred members who work at
5 Dresden, Braidwood, and the fossil stations in our area, some of them
6 who could not be here tonight, but would like me to convey their
7 thoughts. They do not feel that there is any detrimental
8 environmental effect from the operation of the Dresden Nuclear
9 Station. They couldn't be here tonight because they are working at a
10 refueling outage at LaSalle. I feel also very confident tonight after
11 listening to the NRC staff give it's thorough report on the effects of
12 the operation of Dresden.

13 I know that I don't worry about it at all when I go to
14 bed at night and I feel a little bit more safer after knowing that
15 they have conducted a very inclusive study of the Dresden Nuclear
16 Station. I'm also a member of the Troy Fire Protection District which
17 is involved in the disaster plans for the station, and they're very
18 thorough and they're very, some things that you have to do, that you
19 hope you never have to use. So, especially based on what I heard here
20 tonight, after the study that they did for the licensing of it, I feel
21 very confident that there will be no adverse effects on the
22 environment or the public safety of the continued operation. And I
23 request that the NRC grant the license renewal for Dresden Nuclear
24 Station.

25 Thank you.

1 MR. CAMERON: Okay. Thank you very much, Mr. Schwartz,
2 for those comments. Is there anybody else who would like to talk at
3 this point? We do have a number of NRC staff here, both from our
4 headquarters in Rockville, Maryland, and our regional office right
5 here in Illinois. And they'll be available to talk after the meeting.

6
7 And I would like to introduce one staff member, our
8 resident, Senior Resident Inspector, Desiree Smith is with us right
9 here, and our residents are our eyes and ears, so to speak, at the
10 plant. They live in the community. They're at the plant to ensure
11 the NRC regulations are complied with and Desiree is our Senior
12 Resident here at Dresden.

13 Any other questions or any information that we can
14 provide to any of you at this time? Okay, well thank you for coming
15 out tonight. And I'm going to ask John Tappert to close the meeting
16 for us. John?

17 MR. TAPPERT: Thanks, Chip. I just want to thank
18 everyone for coming out again tonight and remind you that our comment
19 period does go 'til February 24th, so if you have any additional
20 comments in the future, please forward them to us. And thanks for
21 participating, and drive home safely.

22 (Whereupon, at 8:00 p.m. the meeting
23 was adjourned.)

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