

ATTACHMENT 4

Official Transcript of Proceedings
Nuclear Regulatory Commission

Public Meeting on Draft Generic Environmental
Impact Statement on Decommissioning of
Nuclear Facilities

Docket Number: (not applicable)

Location: Atlanta, Georgia

Date: Wednesday, December 12, 2001

Official Transcript of Proceedings

NUCLEAR REGULATORY COMMISSION

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Impact Statement on Decommissioning of
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Pages 1-119

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
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PUBLIC MEETING TO
PROVIDE COMMENTS ON DRAFT SUPPLEMENT 1 TO NUREG-0586
DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT ON
DECOMMISSIONING OF NUCLEAR FACILITIES

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ATLANTA, GEORGIA
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WEDNESDAY, DECEMBER 12, 2001

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The Public meeting was held in the Marriott
Marquis Hotel, Bonn Room, Convention Level, Meeting
Cluster 3, Atlanta, Georgia, at 7:05 p.m., Francis
"Chip" Cameron, Facilitator, presiding.

PRESENT:

FRANCIS "Chip" CAMERON
BARRY ZALCMAN
EVA HICKEY
DUANE NITZEL
DINO SCALETTI
MIKE MASNIK
STEVE LEWIS
THOMAS DECKER

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

(7:05 p.m.)

1
2
3 MR. CAMERON: Good evening, everybody.
4 I'd like to welcome all of you to the Nuclear
5 Regulatory Commission's Public Meeting on the Draft
6 Generic Environmental Impact Statement on Reactor
7 Decommissioning.

8 My name is Chip Cameron, I'm the special
9 counsel for public liaison at the Nuclear Regulatory
10 Commission and I'm pleased to serve as your
11 facilitator for tonight's meeting.

12 What I'd like to do is to cover a few
13 items about meeting process before we get into the
14 substance of the discussions and what I'd like to do
15 briefly is just talk a little bit about the objectives
16 of tonight's meeting; secondly, the format and ground
17 rules for the meeting; and third, I'd like to just
18 give you an overview of the agenda so that you know
19 what's going to happen when.

20 In terms of objectives, we have two
21 objectives. The first one is to explain to you the
22 findings and recommendations that are in the Draft
23 Generic Environmental Impact Statement and most
24 importantly how that statement, how that information
25 might be used in the decommissioning of specific

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1 reactors or in other parts of the NRC regulatory
2 framework.

3 At this point, just let me clear one thing
4 up that may be a little bit confusing. This Draft
5 Generic Environmental Impact Statement is called
6 Supplement 1, and you might wonder supplement to what.
7 Well, as the staff will explain more fully later on,
8 in 1988, the NRC prepared a Generic Environmental
9 Impact Statement on decommissioning. That Generic
10 Environmental Impact Statement covered all types of
11 nuclear facilities, not just nuclear power plants.

12 This update that we're going to be talking
13 about tonight covers just nuclear power plants and
14 it's updated information so it's a supplement to the
15 1988 Draft Generic Environmental Impact Statement. And
16 I'd like to emphasize the word "draft". This document
17 will not be finalized and it will not be used until we
18 receive and evaluate public comments on the Draft
19 Generic Environmental Impact Statement, including what
20 we hear from you tonight.

21 So the second objective tonight is to hear
22 your comments and concerns on the Draft Generic
23 Environmental Impact Statement so that the NRC can
24 improve it to the extent necessary and make sure that
25 it's an effective document.

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1 We're taking written comments on the Draft
2 Generic Environmental Impact Statement, but we wanted
3 to be in the region with you tonight in person to talk
4 to you about this. And you may hear some information
5 tonight that will better inform you in terms of making
6 written comments, but let me emphasize that anything
7 we hear tonight will be given the same weight as any
8 written comments that we do receive.

9 In terms of format for the meeting, the
10 format for the meeting flows out of the objectives of
11 the meeting. So the first segment of the meeting is
12 to give you some background on the Generic
13 Environmental Impact Statement, and we're going to
14 hear two brief presentations and then we're going to
15 go out to you for question and answer on those
16 presentations. The first is going to be on the
17 Environmental Impact Statement process generally and
18 we have Dino Scaletti from the NRC staff here, and
19 I'll give you a few words about his background in a
20 minute.

21 And then we have a second presentation
22 that's specifically going to discuss what is in the
23 Draft Generic Environmental Impact Statement and the
24 methodology that was used to prepare that. And Eva
25 Eckert Hickey from Pacific Northwest Lab is the lead

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1 staff scientist. Eva is coordinating a team of
2 scientists that is assisting the NRC to do the
3 evaluations of environmental impacts in this
4 particular statement.

5 After we go through that context with you,
6 then we'd like to hear from any of you who would like
7 to make a more formal comment for us. We have a
8 number of people who want to talk and you can come up
9 to the podium if you would like, if that would be the
10 most comfortable. You can stay in your seat if you
11 would like and use this talking stick.

12 I would just like to discuss a couple of
13 ground rules, real simple ones. We want to make sure
14 that everybody has an opportunity to talk tonight, so
15 I would just ask you to be concise, but we don't have
16 a whole lot of people so we have plenty of time. I
17 would just say use a ground rule of let's say five to
18 ten minutes for your formal comments, but we do have
19 some luxury tonight in terms of time.

20 Whenever you do either come up to the
21 microphone or ask a question, just tell us who you are
22 and what your affiliation is, if appropriate, so that
23 we have that for the transcript. We have Bill Warren
24 as our court reporter tonight. That transcript as
25 well as the transcripts from any other public meetings

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1 that the NRC did on this Generic Environmental Impact
2 Statement -- those transcripts will be available on
3 the NRC's web site. If you want a hard copy, I think
4 we can arrange to get you a hard copy of the
5 transcript from this meeting or perhaps other
6 meetings. But I would ask that only one person at a
7 time talk so that most importantly we can give them
8 our full attention, but also so that Bill can get a
9 clean transcript for us and we'll know who is
10 speaking.

11 And in terms of agenda, the last item I
12 want to cover, Dino Scaletti is going to cover the
13 process for developing this Generic Environmental
14 Impact Statement. He's also going to talk a little
15 bit about the NRC's decommissioning process. And Dino
16 has been with the NRC for approximately 27 years, not
17 only as an environmental project manager but as a
18 safety project manager and prior to that, he was with
19 the U.S. Navy's land-based nuclear program and perhaps
20 we can find out about that after the meeting is over.
21 But he has a graduate degree in zoology and a
22 bachelor's degree in electrical engineering, and he is
23 the project manager for the development of this
24 particular Generic Environmental Impact Statement.

25 After Dino talks and we see if there's any

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1 questions that we can answer, we're going to have Eva
2 Eckert Hickey tell us about what is in the Draft
3 Generic Environmental Impact Statement and what
4 approach the scientists took to prepare this
5 Environmental Impact Statement, their methodology.
6 Eva is a health physicist, not only in environmental
7 health physics, but also operational aspects of health
8 physics and she is also an expert in emergency
9 preparedness. She has worked as an environmental
10 engineer for the NRC and I believe that was in the
11 NRC's Region II office here in Atlanta. And she has
12 a master's degree in health physics from the Georgia
13 Institute of Technology.

14 And the last thing I'll mention is that
15 there is an evaluation form that the NRC uses to see
16 how we can improve public meetings. It's out on the
17 desk. You don't have to fill it out tonight if you
18 fill it out at all, but we would appreciate that, if
19 you have any suggestions for us. But it is already
20 franked, so you can just put it in the mail to us.

21 I would just thank all of you for being
22 here and this is -- we're together tonight for a
23 limited period of time, there is also written
24 comments, but please take the opportunity -- and I
25 would say this to all of the NRC staff that are here

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1 from either the regional office or the various offices
2 in NRC headquarters -- please take the time to talk to
3 one another, those of you from the public, talk to the
4 NRC staff, maintain some continuity with them.
5 They're always willing to take phone calls, take e-
6 mail messages to try to help people out. So at least
7 we can try to build some ongoing relationships among
8 people through this meeting process.

9 And with that, I'm going to ask Dino to
10 come up and do his presentation on the process.

11 Dino.

12 MR. SCALETTI: Thank you, Chip. I'm with
13 the Office of Nuclear Reactor Regulation, and I'd like
14 to welcome you here tonight and take a few moments to
15 explain to you or try to explain to you why we're
16 here, give you an overview of the process. But first,
17 I'd like to tell you that the U.S. Nuclear Regulatory
18 Commission was formed as a result of the Atomic Energy
19 Act of 1954 and the Energy Reorganization Act of 1974.

20 The NRC's mission is to regulate the
21 nation's civilian use of nuclear materials, to ensure
22 the protection of the health and safety of the public
23 and workers and to protect the environment.

24 The NRC is an independent agency headed by
25 five Commissioners who are appointed by the President

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1 and the Chairman is also designated by the President.

2 The purpose of tonight's meeting is to
3 discuss Draft Supplement 1 of the Generic
4 Environmental Impact Statement or GEIS on
5 decommissioning of nuclear facilities. In 1988, the
6 NRC published NUREG-0586, an Environmental Impact
7 Statement that evaluated the impacts of
8 decommissioning of a variety of facilities, including
9 nuclear power plants.

10 This supplement addresses only permanently
11 shut down nuclear power plants. We will explain what
12 the GEIS is, how it is used and when it is used.
13 First, I will describe the process set forth by the
14 National Environmental Policy Act or NEPA for
15 developing this GEIS and then I'll turn the discussion
16 over to Eva Hickey and she will tell you the approach
17 for developing the document, including defining the
18 scope, establishing a process for environmental
19 analysis, the format of the report and finally, the
20 conclusions of the report.

21 We plan to keep our presentations short so
22 you, the public, will have time to ask your questions
23 and provide your comments.

24 The National Environmental Policy Act of
25 1969 places the responsibility upon federal agencies

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1 to consider significant aspects of the environmental
2 impact of a proposed action and it requires that all
3 federal agencies use a systematic approach to consider
4 impacts during the decommissioning process -- during
5 the decision-making process.

6 The NEPA process also is structured to
7 ensure that federal agencies will inform the public
8 that it has indeed considered environmental concerns
9 in its decision-making process and invite public
10 participation to evaluate the process. This meeting
11 tonight is part of that process.

12 NEPA requires that an Environmental Impact
13 Statement or assessment be prepared for all major
14 federal actions. In addition, supplements to drafts
15 or final EISs are also required when there are
16 significant new circumstances or information relevant
17 to the environmental concerns.

18 The original GEIS or NUREG-0586 was
19 published in 1988, some 13 years ago. Since then we
20 have had several revisions to the regulations and
21 gained considerable experience from actual
22 decommissioning and the staff believed at this time it
23 would be appropriate to supplement NUREG-0586.

24 Generic EISs are allowed in cases where
25 there is a need to address generic impacts that are

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1 common to a number of similar proposed actions or
2 similar facilities. This process provides for the
3 preparation of generic Environmental Impact Statements
4 to avoid the time and expense of repeated reviews of
5 essentially the same material. When an environmental
6 issue has been resolved generically, there is no need
7 to conduct another detailed review of the same issue
8 unless there is significant new information related to
9 that issue.

10 The NEPA process follows certain steps
11 which provides consistency for all EISs prepared by
12 all federal agencies. The first step in the process
13 for the NRC is a Notice of Intent, which was published
14 in the Federal Register in March 2000. The Notice of
15 Intent informed the public that an EIS, or in this
16 case, a supplement to NUREG-0586, was going to be
17 published. A second notice was published in May of
18 2000.

19 Four public scoping meetings were held in
20 2000 in San Francisco, Chicago, Boston and Atlanta.
21 Scoping meetings are used early in the NEPA process to
22 help the federal agency decide what issues should be
23 discussed in the EIS. The scoping meetings help
24 define the proposed action and determine any
25 peripheral issues that might be associated with the

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1 proposed action. Public comment was provided through
2 mid-2000.

3 Once scoping was completed, NRC collected
4 data and evaluated the environmental impacts
5 associated with nuclear power plant decommissioning.
6 The environmental evaluation addressed the
7 environmental impacts of the proposed action in a
8 generic manner. That is, the impacts that may occur
9 at all or most decommissioning nuclear power plants;
10 the alternatives to the proposed action and the
11 impacts that could result from those alternatives are
12 also addressed.

13 Finally, we looked at mitigating measures,
14 those measures that can be taken to decrease the
15 environmental impact of the proposed action.

16 The environmental evaluations were
17 completed and the draft supplement to NUREG-0586 was
18 published for public comment on November 9, 2001. All
19 federal agencies issue draft EISs for public comment.

20 The public meeting process we are in now
21 is to gather your comments on the supplement. After
22 we evaluate the comments, we may change a portion of
23 the supplement based on those comments.

24 The final EIS is scheduled to be issued in
25 mid-2002.

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1 What exactly is a supplement to the
2 Generic Environmental Impact Statement on
3 decommissioning? A Generic Environmental Impact
4 Statement identifies the environmental impacts that
5 may be considered generic for all nuclear reactor
6 facilities. It defines an envelope of impacts,
7 predicting the level of impacts for a specific set of
8 generic conditions. It also identifies the
9 environmental impacts that need to be considered in
10 more detail as site-specific issues for each facility.

11 Supplement 1 provides updated information
12 on environmental impacts from decommissioning
13 activities for permanently shut down nuclear power
14 plants. The original document for decommissioning was
15 published in 1988; therefore, it is over 13 years old.
16 Since the original document was published, there has
17 been new regulations related to decommissioning that
18 were issued.

19 For example, the regulation requiring
20 submittal of a post-shutdown decommissioning
21 activities report and a license termination plan. In
22 addition, since 1988, there has been an increase in
23 the amount of decommissioning experience in the U.S.
24 Currently 21 commercial nuclear power reactors have
25 permanently ceased operations. As a result, there is

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1 over 300 years worth of decommissioning experience
2 resulting in much new information available regarding
3 the environmental impacts from decommissioning a
4 commercial nuclear power plant.

5 And finally, there have been several new
6 issues that were not considered in the 1988 GEIS.
7 These include rubbleization which in this case entails
8 completing decontamination and disposing of the
9 slightly contaminated building rubble on site in such
10 a way as to meet the site release criteria.

11 Another issue is partial site release
12 which involves releasing the clean part of the site
13 before decommissioning is completed.

14 And finally, entombment, which, although
15 was considered in the 1988 GEIS, may need to be
16 reconsidered in somewhat different form to allow for
17 possibility of some substantial decontamination or
18 removal of large components prior to entombment.

19 These new issues are addressed in
20 Supplement 1.

21 Supplement 1 to NUREG-0586 will be used to
22 focus the analysis of environmental impacts. It will
23 help us to determine which of the impacts is site-
24 specific and need to be considered individually for
25 each nuclear power facility that is decommissioned,

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1 and which impacts are generic and can be evaluated as
2 part of the GEIS and then not re-evaluated every time
3 a plant enters decommissioning. This has allowed us
4 to spend more time and resources that are required to
5 focus in on impacts that are applicable for that
6 particular site.

7 This supplement does not include a site-
8 specific look at each facility. Some issues, like
9 those related to the presence of endangered and
10 threatened species will always be site-specific and
11 will need to be addressed separately from the
12 supplement.

13 One final purpose is to determine if
14 additional rulemaking for decommissioning is required.
15 If so, the supplement may support rulemaking
16 activities.

17 Supplement 1 will be used throughout the
18 entire decommissioning process. The NRC's regulations
19 require that no decommissioning activity be performed
20 that would result in a significant environmental
21 impact that has not been previously reviewed. This
22 means that every time the licensee starts a new
23 activity, they must determine if it would result in an
24 environmental impact that was not reviewed in the
25 supplement or in the site-specific final Environmental

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1 Impact Statements or any subsequent environmental
2 analyses that were reviewed and approved by the NRC.

3 In addition, a hard look is taken at the
4 environmental impacts at the stage that the post-
5 shutdown decommissioning activities report is
6 submitted and the license termination plan stage.

7 So unless you have any questions, that
8 concludes my presentation.

9 MR. CAMERON: Thank you very much, Dino.
10 Let's see if people do have questions about your
11 presentation or the NRC's decommissioning process.

12 Let's go back here and please just give us
13 your name and affiliation.

14 MR. GENOA: Thank you. Paul Genoa with
15 the Nuclear Energy Institute.

16 At one point, Dino, you mentioned that the
17 scope was to include three new areas. You mentioned
18 rubblization, entombment and partial site release.
19 The entombment is clearly identified as a section in
20 the report. Could you direct us towards the part of
21 the report that would deal with rubblization or
22 partial site release?

23 MR. SCALETTI: Rubblization in general is
24 considered from the standpoint of disposing of clean
25 material on site and the leachability of that

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1 material, et cetera and that's covered in every
2 section of the report.

3 MR. CAMERON: Mike, do you want to offer
4 something on this?

5 MR. MASNIK: I can give you a page number
6 for the first one, and that's rubblization.

7 Name is Mike Masnik.

8 On page 1-7, lines 20 through 33, it talks
9 about rubblization.

10 MR. CAMERON: Okay, any further
11 information to add as far as anything that the NRC is
12 doing in addition on those subjects, in addition to
13 what's in the draft Generic Environmental Impact
14 Statement -- partial site release, rubblization,
15 entombment -- are there other regulatory activities
16 that you guys might want to mention?

17 MR. MASNIK: Mike Masnik again.

18 For partial site release, the Commission
19 just recently issued a draft rule for comment on the
20 proposal to release portions of the site prior to
21 approval of the license termination plan. That's out
22 for comment at this time.

23 Additionally, recently the Commission also
24 issued an advance notice of proposed rulemaking for
25 entombment and that also is a solicitation for public

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1 comment.

2 MR. CAMERON: Dino.

3 MR. SCALETTI: Partial site release is
4 talked about on 2-7.

5 MR. GENOA: Thank you.

6 MR. SCALETTI: You're welcome.

7 MR. CAMERON: And if you would like to
8 receive a copy or find out more about the two
9 rulemakings, the proposed rule or the advance notice
10 of proposed rulemaking, we will provide that
11 information for you. Okay? And hopefully we can get
12 you a copy of the Federal Register notice.

13 MS. ZELLER: I'm Janet Zeller, Blue Ridge
14 Environmental Defense League. I'd like to know what
15 issues or areas of concern or specific information the
16 NRC would evaluate in determining additional
17 rulemakings, whether they are needed.

18 MR. SCALETTI: Well, this document --
19 right now, the one rulemaking activity we have going
20 on is -- the notice of advance rulemaking is
21 entombment.

22 MS. ZELLER: Right.

23 MR. SCALETTI: Now we did evaluate a range
24 of entombment options at both ends of the spectrum.
25 And there's information in there that could be used

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1 for the entombment rulemaking. I expect there'll be
2 a lot more done but certainly this would go to support
3 it if it was necessary.

4 MS. ZELLER: Okay, and are there other
5 possible areas of new information that could be
6 presented in this process by the industry or the
7 public that would result in additional rulemakings,
8 other than those now underway?

9 MR. SCALETTI: I'm not sure. Would you
10 like to address that, Barry?

11 MR. ZALCMAN: Good evening. My name is
12 Barry Zalcmán, I'm also with the Office of Nuclear
13 Reactor Regulation.

14 I try and characterize our regulations as
15 always being interim regulations in that we try to
16 perfect them all the time. There are experiences that
17 we get through plants and operation as plants go into
18 decommissioning and events that occur and obviously
19 the events of September 11 have a bearing on this as
20 well.

21 So the agency is always receptive to
22 interest on the part of the public in the way we
23 should shape our rules. There's a mechanism allowing
24 the public to participate that way. But let me at
25 least provide you some insight that certainly in the

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1 case of security, the Commission has already directed
2 the staff to do a top down review of security issues,
3 not only in plants that have been permanently shut
4 down but also for operating nuclear power plants as
5 well.

6 So that's a fertile area, it's likely to
7 be changed in the years to come. The agency has taken
8 additional actions as well in the interim, but
9 certainly we're talking about entombment, there's an
10 initiative underway of the partial site release rule.
11 You can expect that there would be changes in the
12 security arena as well. The key is we can't forecast
13 where all those changes are going to be, but we have
14 an organic set of regulations in that we attempt to
15 improve them as we have more and more experience,
16 engaging the stakeholders, and that's the public and
17 the industry and licensees, throughout that process.

18 MR. CAMERON: And just let me add to that
19 so that people realize one of the objectives of
20 commenting on this draft EIS, as you look at the
21 material that's in there, you may see a change to
22 NRC's rules that could be supported or should be
23 changed. So I think that probably is within the scope
24 of comment on this rulemaking. So if you do have
25 suggestions along that line, please provide them to

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1 the NRC.

2 Any other questions at this point on the
3 process of developing this draft Generic Environmental
4 Impact Statement, how it will be used, the
5 decommissioning process -- if you have questions later
6 on that or that are sparked by what you hear in
7 comment or in Eva's presentation we can go back and
8 address those, but I just want to make sure there's no
9 other questions now before we go to Eva.

10 Yes?

11 MS. BARCZAK: Sara Barczak with Georgians
12 for Clean Energy.

13 I had a question on the difference between
14 the 1988 -- or one of the differences between the 1988
15 version and this supplement. The scope of facilities
16 that are being addressed is much smaller, it's mainly
17 just nuclear power reactors and I wanted to know for
18 all the other facilities that were referenced in the
19 '88 document and some of those included like the MOX
20 facilities. How will those be addressed, are they
21 going to be addressed in a different type of document
22 down the road or -- I'm just asking along those lines.

23 MR. SCALETTI: The 1988 EIS is still
24 intact with the exception of nuclear power plants, all
25 of the information in there is still valid. We have

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1 excerpted all of the information and we have repeated
2 it if necessary so that the supplement is a standalone
3 supplement.

4 As far as the timing and the necessity to
5 revise the other portions of NUREG-0586, if someone
6 else can address that, certainly not me.

7 MR. CAMERON: We do have someone here from
8 our Office of Nuclear Material Safety and Safeguards
9 that handles those other types of facilities, and
10 Matt, I'll let you introduce yourself.

11 MR. BLEVINS: Matt Blevins, NMSS.

12 The 1988 guide was for decommissioning of
13 those types of facilities and, as you may or may not
14 know right now, there is an effort underway to write
15 an EIS for the MOX facility and if you want the
16 contact name, I can give that to you afterwards. You
17 may already be aware of that.

18 MR. CAMERON: Okay, anything else before
19 we move on to the substance of this Generic
20 Environmental Impact Statement? And as I said, we'll
21 go back and revisit whatever, but I guess, Dino, we'll
22 let Eva make her presentation now.

23 Eva Eckert Hickey on the substance of the
24 draft GEIS.

25 MS. HICKEY: Good evening. My name is Eva

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1 Hickey and I'd like to welcome you here tonight.
2 We're looking forward to hearing your comments. I'm
3 going to try to just very briefly go through our
4 approach on the document, on how we developed the
5 document. There's a lot of detail in it and I'm not
6 going to get into that fine detail, but if you have
7 questions later on, I'd be glad to answer them.

8 I'm the task leader for the development of
9 Supplement 1 to 0586. I work with Pacific Northwest
10 National Laboratory and I led a multi-disciplinary
11 team of people, there were over 10 of us working on
12 the development of this supplement to NUREG-0586. I
13 have an additional person from PNNL with me tonight,
14 Duane Neitzel, and he was involved in the aquatic
15 ecology aspects of this document. So if you have any
16 particular questions on that, he may be able to help.
17 He's also a NEPA expert, so he can also help with some
18 of those questions.

19 Before I get into my talk, I thought since
20 we've been going -- using several terms, I'd like to
21 define them. The first one is decommissioning, and as
22 we developed this supplement, we had to go back to
23 this definition many times to make sure that we stayed
24 focused on what we were trying to accomplish in this
25 supplement. So this definition is taken out of the

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1 NRC regulations and it says,

2 "Decommissioning is the process of
3 safely removing a facility from service,
4 followed by reducing residual
5 radioactivity to a level that permits
6 termination of the NRC license."

7 And as I talk to you more about the scope,
8 you'll see how important this definition is.

9 Another term I thought would be important
10 to go over is what we mean by generic, since this is
11 a Generic Environmental Impact Statement. And we've
12 defined generic to mean, in this document,
13 environmental impacts that have been determined to
14 apply either to all plants or all plants with certain
15 characteristics; for example, all plants that are a
16 certain size, are located in a certain area or perhaps
17 all pressurized water reactors or all boiling water
18 reactors.

19 Also in the term generic, we identified a
20 significance level and that would be small, moderate
21 or large, and I'll talk about that in just a minute.
22 And we also looked at the mitigative measures to the
23 environmental impacts. And these are all defined in
24 the Supplement 1.

25 Now, the approach when we first started

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1 this project several years ago and we had a thought
2 process that we needed to go through in creating the
3 supplement to NUREG-0586. As Dino said, this is only
4 for nuclear power reactors and we had to go through
5 and determine what our scope would be, and so we used
6 the NEPA process and we had the four scoping meetings
7 that Dino talked about.

8 And then we also had to determine how were
9 we going to establish what the environmental impacts
10 from decommissioning were. We needed an approach, a
11 method, and I'm going to talk about that in a little
12 bit.

13 And finally, what we were trying to do is
14 determine which environmental impacts from
15 decommissioning were generic and which of those
16 impacts would be site-specific. So that was our goal
17 for this particular project.

18 So the rest of my presentation, I'm going
19 to talk to you about how we determined that scope.
20 I'm going to explain the approach that we used for
21 identifying the environmental impacts for
22 decommissioning. I'm going to talk to you a little
23 bit about where we got the information that we used in
24 this document and then I'm going to go very briefly
25 over the summary of the findings that we have in this

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1 document.

2 But to begin with, I wanted to explain to
3 you in the life cycle of a reactor where we were, what
4 we were looking at. As you can see here, we have
5 plant construction and licensing and the plant can
6 operate for up to 40 years, or if there's an option
7 for relicensing. So the plant could potentially
8 operate for 60 years. Then the plant permanently
9 shuts down. The environmental impacts that we were
10 looking at are at this point and that could take
11 anywhere between five and 60 years for these
12 decommissioning activities. So this is the point in
13 time that we were looking at the environmental
14 impacts.

15 Let me spend just a few minutes explaining
16 to you about the scope of this supplement. First, we
17 started with the 1988 GEIS. We gleaned all the
18 information from there and determined what was
19 appropriate from the original GEIS.

20 Then we had our four scoping meetings and
21 from those scoping meetings, we had a number of
22 comments. We went through and identified all the
23 comments from the transcripts and then we did an
24 evaluation on those comments to determine which ones
25 would be in scope and which ones were not. And I want

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1 to take just a minute to explain to you, because a
2 number of you provided those comments, how we
3 determined which ones were in scope.

4 The first thing we looked at was the
5 definition of decommissioning once again. So a
6 comment that related specifically to decommissioning
7 removal of residual radioactivity would be a comment
8 that we considered within scope.

9 Then we also had the request by the
10 Commission to look at rubblization, partial site
11 release and entombment. So comments that were related
12 to these requests were considered within scope.

13 And then there were a number of comments
14 that may appear to be related to decommissioning and
15 indeed they are, but for a number of reasons -- one
16 that they might be outside the purview of the NRC, and
17 I'll give you an example of that. If a state has a
18 specific requirement for the reactors within their
19 state, then that would be outside of the NRC purview.
20 So if you had a comment related to that, that would be
21 considered outside of scope because it's not something
22 related to an NRC requirement.

23 And then there's also a number of comments
24 that we had that were actually addressed elsewhere in
25 NRC's regulations and covered in other environmental

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1 analyses, and I'll give you an example of that. We
2 did not look at the radiological impacts after license
3 termination. And those impacts are considered in the
4 GEIS for license termination. So there is -- we have
5 an appendix in the supplement that will explain a
6 number of those areas that are related to
7 decommissioning but we have not considered within
8 scope of our document.

9 Once we identified our scope, we had to
10 come up with our process. And we decided to look at
11 -- break apart the decommissioning process and look at
12 all of the activities that take place during
13 decommissioning and then we also needed to address the
14 environmental issues.

15 The activities, we put together a list of
16 what we thought were the complete list of activities
17 and then we asked NRC staff with experience in
18 decommissioning and we also asked the industry if our
19 list was complete or if they had some suggestions on
20 how we should modify our activities. And we got quite
21 a bit of comment from that and we finalized our list
22 of activities.

23 Then we established our environmental
24 issues that we would look at. These are the issues
25 where we would determine the environmental impacts.

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1 We used the typical ones -- water use, water quality,
2 air quality, radiological concerns -- and the list of
3 activities, the list of environmental issues are all
4 provided in the supplement. And once again, we went
5 to the NRC staff with experience in decommissioning
6 and the industry to ask if we had the appropriate list
7 of environmental issues.

8 Now that we've got our list of
9 decommissioning activities and our environmental
10 issues, we wanted to take a first cut at what the
11 environmental impacts would be. So we created a
12 matrix where we had a list of all the activities and
13 all the environmental issues that we were looking at
14 and we went through and identified for each activity
15 which issues would potentially have an environmental
16 impact and we put an X in our matrix. And you can
17 find the complete Tier 1 matrix in the appendix to
18 Supplement 1. So we had a list of all of the
19 decommissioning activities that would have
20 environmental impacts.

21 But we recognized that there was a lot of
22 variability among the nuclear reactors and we wanted
23 to make sure that we accounted for all that
24 variability in identifying the environmental impacts.
25 So we identified all the features that would be --

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1 that you would find among the plants -- type and size
2 of the plant, the type of cooling system the plant may
3 use. We were particularly interested in the option of
4 decommissioning, such as decon, safe store or
5 entombment, that the plant would use. We looked at
6 cultural resources, transportation and this list is
7 also given in the supplement.

8 Once we had our variability, we went back
9 and did another assessment of the environmental
10 impacts -- how would this variability affect the
11 environmental impacts for each of the environmental
12 issues. And we went through our matrix once again,
13 modifying it as appropriate based on the variability
14 among the plants.

15 And from that, we came up with our list of
16 those impacts that were considered generic. Then we
17 determined the significance of the impacts -- small,
18 moderate or large -- and we determined which impacts
19 are site-specific impacts. And those would require a
20 site-specific assessment.

21 We go in detail in Chapter 4 on what the
22 generic impacts are and the criteria for determining
23 the significance level. And there's -- the discussion
24 on the site-specific impacts also can be found in
25 Chapter 4.

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1 So just to summarize, we looked at our
2 scope, we went through and did our initial impact
3 analysis and our Tier 1. We looked at plant
4 variabilities and made adjustments to the
5 environmental impacts. We determined what was generic
6 and which impacts were site-specific.

7 Now, we spent a lot of time collecting
8 information that we used in our environmental
9 analysis. We did a very extensive search of the open
10 literature, we had extensive discussions with NRC
11 staff, we looked at the public comments and then the
12 team and I made a number of visits to power plants
13 that are currently going through decommissioning so
14 that we could get some first-hand information from
15 these plants on data that we would need for our
16 environmental analysis. We visited six plants that
17 would cover the variety that we saw in
18 decommissioning.

19 We also looked at the nuclear plants that
20 are still operating, because we want to make sure that
21 these -- this GEIS, this supplement, would be
22 appropriate to those plants when they shut down.

23 For the plants that we weren't able to
24 visit, we requested information and data so we could
25 use data from those plants as well in our

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1 environmental analysis.

2 Okay, let me talk just a minute about our
3 findings. This is the list of the generic issues and
4 the impact level that we assigned to each one. For
5 most of them, you can see we have one impact level.
6 We have identified the socio-economics in postulated
7 accidents, three impact levels. Under socio-
8 economics, there's two subissues.

9 One on -- let me make sure I get this --
10 one is related to population change and the other
11 subissue is related to tax revenue loss. And we found
12 that for each of these subissues, depending on the
13 change, you could have a significance impact level of
14 small, moderate or large. And we considered all of
15 those as generic.

16 And likewise, for postulated accidents, we
17 have three significance levels, depending on the
18 accident and the impact from that accident. And those
19 impacts could be small, moderate or large, but we've
20 also considered those generic.

21 Now here's our list of findings for site-
22 specific issues. We have land use, aquatic and
23 terrestrial ecology, threatened and endangered
24 species, environmental justice and cultural and
25 historical resources.

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1 For land use, aquatic and terrestrial
2 ecology and cultural and historical resources, there's
3 only specific areas, parts of the issue, that are
4 considered site-specific. And this would occur if the
5 licensee had activities that would require activities
6 outside of previously disturbed areas. In other
7 words, for the area, the operational area that's
8 already been used, those would be considered generic.
9 If the licensee has to disturb areas outside of the
10 operational area and there's no previously performed
11 assessment, they would need a site-specific analysis.
12 So there's only a very small area there under those
13 three that requires site-specific analysis.

14 However, for threatened and endangered
15 species and environmental justice, a site-specific
16 analysis is required and the NRC staff would be
17 responsible for performing that analysis.

18 I guess one thing I would like to say
19 before I turn it back over to Chip is I hope that I've
20 characterized what we've tried to do in this document
21 is provide an envelope for the licensee to use as
22 they're going through decommissioning. Whenever they
23 look at any activity that they're going to perform, if
24 they are within that envelope, within the criteria in
25 the GEIS, then they do not need to do a further

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1 analysis. If they have an activity and they fall
2 outside of that envelope, then they will need to do a
3 site-specific analysis.

4 Likewise, if there's an activity -- say if
5 there's a new technology that comes along that we've
6 not addressed in this supplement, they will also have
7 to do a site-specific analysis.

8 So with that, I'll turn it back over to
9 Chip.

10 MR. CAMERON: Okay, thanks, Eva. And
11 thanks for adding that last summary too about how all
12 of this will work.

13 Before we go out to you to see if there's
14 questions on that, just let me note that written
15 comments will be accepted until December 31, end of
16 the year. You can submit them to the address that is
17 on the handout viewgraphs that we gave you. They can
18 also be e-mailed in to dgeis@nrc.gov, that website, if
19 you choose to do that. If you have any questions at
20 all about this, please contact either Dino Scaletti at
21 extension 1104 or Mike Masnik, who has spoken a couple
22 of times tonight at extension 1191. And lastly, so
23 that there's no misunderstanding, any comments you
24 make tonight -- sometimes questions are really
25 comments. The staff will consider those as comments

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1 on the draft Generic Environmental Impact Statement.

2 Let me ask if there's any questions on
3 Eva's presentation, either the methodology, what's in
4 scope, what's not in scope -- Janet.

5 MS. ZELLER: Okay. Janet Zeller, Blue
6 Ridge Environmental Defense League.

7 Okay, we searched the document to
8 determine what the actual acceptable risk is to the
9 public for the activities addressed in your process.
10 And what we determined is that it's a pretty wide
11 range, from three to 21 person rems.

12 Can you explain what the differences are
13 between the actual impacts on a population of say
14 10,000 for the two options of non-restricted use and
15 restricted use at the end of the decommissioning?

16 MR. CAMERON: Eva, do you understand the
17 question that Janet is asking?

18 MS. HICKEY: Well, let me see if I can
19 repeat it back so I make sure I understand. You're
20 looking at the variability that we've shown in the
21 dose to the public from the decommissioning activities
22 and so your question is what -- why is there that
23 variability? And then you had a question related to
24 restricted release and unrestricted release.

25 MS. ZELLER: Okay, yeah. What is the

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1 absolute level of acceptable risk -- and I know it
2 ranges in the experiences that the NRC has had at
3 different decommissioned power plants. And so there
4 were different doses identified at different plant
5 locations and I know some of the variables that went
6 into that.

7 What is the absolute level of acceptable
8 risk that NRC will allow for decommissioning activity
9 in general -- that's number one. And number two is
10 what are the two levels of acceptable risk for the two
11 options of leaving the site -- leaving the site really
12 clean, which is unrestricted use, or leaving the site
13 restricted.

14 MS. HICKEY: Okay, I think I understand.

15 The first question is related to the
16 actual time when decommissioning is occurring, and
17 what we did, we looked at the collective dose to the
18 public during the time of decommissioning and we found
19 -- what we did is we compared it with the dose to the
20 public during operation. And we found that for the
21 most part, that dose was lower than during operation.
22 There may be some activities, some times when the
23 releases would be similar to operation, but the plant
24 must meet the regulations for release of effluents the
25 same as an operating plant. And so that's why we

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1 compared it to those of the operating plant.

2 Now, the second question is related to
3 actual license termination and our document only
4 looked at -- we only considered in scope license
5 termination for unrestricted release. If the licensee
6 goes in for a restricted release, then that would
7 require a site-specific evaluation.

8 For an unrestricted release, the criteria
9 is 25 millirem per year. So for the --

10 (Inaudible question from Ms. Zeller.)

11 MR. CAMERON: The question was 25
12 millirems where?

13 MS. HICKEY: Okay. Maybe the best way to
14 do that is to read what it actually says in the
15 requirements and then I can try to explain it, if I
16 need to.

17 "Unrestricted use means that there
18 are no NRC-imposed restrictions on how
19 the site may be used. The licensee is
20 free to continue to dismantle any" --
21 okay, let me go down to this --

22 "The Commission has established a
23 25 millisievert (ph) per year, which is
24 25 millirem per year total effective dose
25 equivalent to an average member of the

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1 critical group as an acceptable criterion
2 for release of any site for unrestricted
3 use."

4 And I won't describe exactly what the
5 critical group is, but that's described in here. So
6 that means in one year there is a group, an individual
7 that would be outside of that reactor site and they
8 would have to receive less than 25 millirem per year.
9 That's total effective dose equivalent. So for the
10 entire year, on site -- I'm sorry, on site -- so for
11 the entire year, somebody located on site could not
12 receive more than 25 millirem per year.

13 MR. CAMERON: And there is -- Janet's
14 question and Eva's answer is going to the NRC's
15 requirements standards for decommissioning any site,
16 be it a nuclear power plant or something else, that's
17 in Subpart E of 10 CFR 20, 25 millirems unrestricted
18 release with ALARA as low as reasonably achievable.
19 In other words, if you can get it down lower.

20 Restricted release -- does anybody on the
21 NRC staff want to just simply tell what the standards
22 are or perhaps Eva, I don't know if you feel
23 comfortable doing that, what the standards are in
24 Subpart E. Because restricted release, the idea is
25 that there's restrictions on the use of the site that

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1 allows you to achieve the 25 millirem dose limit. So
2 25 millirems is the standard. Okay?

3 (Inaudible question from Ms. Zeller.)

4 MS. ZELLER: Okay, so who's responsible
5 then for a site that has restricted use? Because I
6 couldn't quite tell. Who would actually protect the
7 public?

8 MR. CAMERON: Steve, could you just give
9 us a brief description of the restricted use for
10 Janet, focusing on her question?

11 MS. HICKEY: Before Steve starts --

12 MR. CAMERON: Yeah, go ahead, Eva.

13 MS. HICKEY: -- if I can just tell you
14 that those descriptions are on page 2-5 and 2-6 of the
15 supplement and that's directly out of the regulation,
16 10 CFR Part 20.

17 Steve.

18 MR. LEWIS: Steve Lewis, Office of General
19 Counsel at the NRC.

20 The major comment I wanted to offer was
21 that the question of who will be responsible for a
22 restricted release, which I think was the most recent
23 question you posed as a question, the answer to which
24 you are not going to find in this document. This
25 document didn't address it. It's really NUREG-1496,

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1 a 1997 document, which was the basis for the license
2 termination rule that addresses those types of issues.

3 As far as the particular numerical
4 requirements that go along with restricted release, I
5 think they are as set forth. Eva pointed to you where
6 in the document those are specifically laid out.

7 MR. CAMERON: And maybe I can clarify
8 something here. When Eva mentioned during her
9 presentation that certain things were outside the
10 scope of this document, one of the things she was
11 referring to were the standards that were already
12 developed based on another Generic Environmental
13 Impact Statement, that's the NUREG connected to what
14 Steve is talking about. The restrictions, whatever
15 they are, are imposed through institutional controls.
16 It might be government ownership, it might be zoning,
17 whatever. Okay? But I think that's the simple answer
18 to your question, Janet.

19 Do we have other questions on the EIS, the
20 draft EIS and how it's going to be used, the
21 methodology that's in there?

22 (No response.)

23 MR. CAMERON: Okay. And questions may
24 come up and we'll try to answer them after the formal
25 comment, but Eva, thank you very much for describing

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1 that to us and for preparing that evaluation actually
2 on which the talk was based.

3 The second part of the meeting is to hear
4 from all of you in terms of comments or concerns. And
5 we did have sign up cards. Several people have signed
6 up to speak, but the cards are only to give us an idea
7 of how much time we should allocate, so if anybody
8 else who didn't sign up wants to make a comment,
9 please let me know and that will be fine.

10 What I'm going to do is I'm going to ask
11 -- I'm going to go to Ed Martin, Sara Barczak and
12 Adele Kushner as the first three speakers and Ed
13 Martin first. If you want to speak with this from
14 your seat, that will be fine, or you can come up
15 there. Ed, do you want to just stay right there?

16 MR. MARTIN: How about letting Ms. Kushner
17 go first.

18 MR. CAMERON: Well, Adele wanted to let
19 someone else take the first plunge, so we're picking
20 on you, Ed. Okay? Whatever you prefer.

21 MR. MARTIN: My name is Ed Martin, I'm a
22 lawyer in Atlanta. I have represented or worked with
23 people concerned about facilities for most of the past
24 30 years, off and on for the past 30 years. And I'm
25 always concerned in these processes about where the

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1 public ends up.

2 The very first question I ever had about
3 NRC operations was in the licensing of the Vogtle
4 Nuclear Plant when the public comment -- or public
5 hearing was scheduled, and of course, that plant is
6 near Augusta, Georgia, the nearest major city. The
7 public hearing was scheduled in Atlanta on the weekend
8 of the Masters golf tournament. We had to get Senator
9 Talmadge's office to move that back. And I think my
10 concern is always to what extent a generic statement
11 like this takes particular issues that are local out
12 of the local decision-making process, out of the
13 public hearing that has to be had for -- or we were
14 originally led to believe has to be had for each of
15 these.

16 A lot of my work has been based on concern
17 about the cost of these facilities relative to the
18 amount of electricity or other benefits they provide
19 on a life cycle basis, and that seems to be something
20 that's a subtext of this statement.

21 I think going back 25-30 years, the notion
22 was well, we're going to build these things, we're
23 going to run them and then we're going to cover them
24 up in concrete and post guards around them and they'll
25 be safe. Well, now we have rubblization. Suddenly

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1 entombment was the floor, now it's become the ceiling,
2 we won't see it because it's too expensive. Money
3 moves too fast and, you know, how can we do it cheap,
4 how can we do it quick.

5 And of course, our concern is, you know,
6 it may be quick and cheap for the licensee, but for
7 people in the immediate area, people downstream,
8 people on the Savannah River, on the Altamaha River,
9 my concern is that they not be unduly saddled with
10 costs that should be taken into account and that those
11 local concerns be maintained in this process.

12 Let me just see, I had -- I think the one
13 other question I had was as I recall when the first
14 statement was issued, there was a discrepancy between
15 the NRC radiation exposure floor, threshold level, and
16 the EPA level. Is that still out there? I think
17 yours is 25, theirs is 4 to 15 or something for the
18 same exposure.

19 MR. CAMERON: Do you have anything else
20 that you want to add before we sort of just close on
21 your formal comment and then we'll see if we can
22 answer that question?

23 MR. MARTIN: Okay. Yeah, that was just a
24 question I had. No, I think my main issue is just,
25 you know, having the costs on the table and having the

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1 costs be understood, because I think for me there's a
2 moment I go back to in the late 1970s in a proceeding
3 before the Georgia Public Service Commission around
4 the Georgia Power rate hike and this is prior to the
5 Vogtle plant or anything else coming on line.

6 The power company presented a
7 decommissioning report by the Bechtel Corporation,
8 which was a consultant of theirs, that estimated that
9 the cost to decommission a plant was going to be \$270
10 billion in then current dollars. And of course, that
11 was, you know, 30 years, 50 years down the road. So
12 we're talking about dollars that are worth less than
13 dollars in 1978 or whenever that was. And my number
14 was always -- my benchmark number was always that the
15 supply of money in circulation in the United States at
16 that time was \$360 billion.

17 And I think there's got to be some
18 explicit discussion of those sorts of economic issues,
19 and it seems like they're not really out there. You
20 know, I think if people thought we're going to be
21 rubblized and have a waste dump out there, they might
22 not have been so welcoming to these facilities.

23 Thank you.

24 MR. CAMERON: Okay, thank you, Ed, and I
25 know that -- what I like to do usually is get all of

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1 the formal comment on before we answer any questions
2 that come up, but I know that you have to leave and so
3 what I'm going to ask is just very simply if Mike can
4 just talk about -- I believe the question was the
5 difference between the NRC standard and the EPA?

6 MR. MASNIK: Yes. It has been a
7 controversy for a number of years now. The EPA has
8 proposed 15 millirem per year and we've proposed 25 --
9 actually not proposed, but our regulations state 25.
10 We're still working with EPA to try to resolve the
11 differences. We've had a number of facilities that
12 have agreed to clean up to a lower standard and in
13 fact, what we find is that for those plants that are
14 nearing the end of the clean up, they're not really
15 near any of those numbers, they're much lower than
16 even the EPA numbers.

17 So hopefully in the not too distant
18 future, we'll resolve the disagreement between the two
19 agencies, but meanwhile, the industry is working
20 towards a number that's actually below that.

21 Can I just quickly address one or two
22 other comments that he had? Or do you want --

23 MR. CAMERON: Well, since Ed does have to
24 leave, I think the one comment that everybody would
25 probably like to -- I mean Ed's comment was basically

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1 how does the locality, how does the community around
2 the facility participate in decommissioning, how do
3 such questions as cost get considered. I don't want
4 to go into a big long thing now, but Mike, if you
5 could just talk about how that happens and just
6 reiterate the fact that this Generic Environmental
7 Impact Statement, although it is important, is only
8 just one piece of the decommissioning process.

9 Mike.

10 MR. MASNIK: Our Regulations 50.75 require
11 licensees to put a certain amount of money aside.
12 That trust fund that the money is put into. Licensees
13 are required, on an every two year basis, to notify
14 the NRC the status of that trust fund.

15 At the time the plant permanently ceases
16 operation, the licensee has two years to prepare a
17 PSDAR, post-shutdown decommissioning activities
18 report, and that requires a certain amount of
19 information. It provides for notification to the
20 public and the NRC of what the licensee plans to do
21 with the decommissioning. It provides a schedule. It
22 also requires a licensee to take a hard look at costs
23 and also environmental impact. So that's another
24 period of time.

25 Now when a plant ceases operation, what we

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1 have done in the past, about two or three months after
2 the plant permanently ceases operation, we do have a
3 public meeting in the area to kind of tell the public
4 what the process is. At the time that the PSDAR is
5 submitted, typically two years after shutdown, we also
6 have another public meeting where we discuss this.

7 There is a requirement -- in fact, we're
8 just recently publishing or have published some new
9 regulatory guides on cost estimates and what kind of
10 cost data the licensee has to submit to the NRC. So
11 if you're interested, we could get you those. But
12 that would give you some more detailed information on
13 cost.

14 Your number of \$270 billion mystifies me.
15 I think you might have been off by a factor of 1000 on
16 that. What we're finding is the numbers can vary
17 anywhere from \$250 to \$400 million but we have to be
18 very careful when we talk about cost because we're
19 only concerned about radiological decommissioning
20 costs, okay, what it costs to clean up the
21 radiological hazard. Very often, licensees lump fuel
22 management costs in there, they lump costs associated
23 with regulations required by the local community or
24 the state. Green field costs to return the site to
25 its pristine condition can add significant amounts of

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1 money to that.

2 So whenever anybody gives you a cost
3 number, be sure you ask what exactly does that entail.
4 But like I said, about \$250 to \$400 million, and it
5 looks like most of the licensees are going to be, you
6 know, within that range. And I think we even discuss
7 that some in the document as well.

8 MR. CAMERON: Okay, thank you, Mike. And
9 thank you, Ed, for the comment.

10 Let's go to Sara next. Sara, do you want
11 to come up to the podium?

12 MS. BARCZAK: I don't have a Power Point
13 presentation. Can you hear me with this, because I
14 didn't think it was amplifying before. Is this
15 better? Okay.

16 My name is Sara Barczak and I'm the Safe
17 Energy Director for Georgians for Clean Energy in our
18 Savannah field office. We also have an office here in
19 Atlanta. Georgians for Clean Energy is a non-profit
20 conservation and energy consumer organization. We are
21 statewide with members throughout Georgia and have
22 focused on energy and nuclear concerns for about 18
23 years.

24 I would like to start out by addressing
25 the process and how it limits the ability for the

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1 public to effectively participate in this and other
2 nuclear-related issues that impact Georgia
3 communities. The technical nature of the issues and an
4 ongoing resistance by nuclear regulators to share
5 accurate information about nuclear threats has always
6 made it difficult for the public to be involved in
7 decision-making involving nuclear energy issues.

8 But after the tragic events of September
9 11, this problem has escalated to a point where our
10 organization believes it is highly irresponsible of
11 our federal government to go forward with making
12 crucial decisions that will affect generations and
13 generations to come. The NRC's website, as many of
14 you know, was not available for a time and is
15 currently severely scaled back, making public access
16 to important background information very difficult or
17 impossible.

18 I have spoken with representatives of the
19 U.S. Nuclear Regulatory Commission and they have
20 echoed some of my concerns as they too have difficulty
21 gaining information on nuclear industry activity. If
22 people like myself who have the ability to research
23 these issues on a full time basis along with staff
24 members of the regulatory agencies are having a hard
25 time, imagine the fate of a concerned citizen who has

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1 limited time to devote.

2 And I think all of us in this room know
3 what I'm talking about, and it's a very real concern,
4 it's very valid. And regardless of how much I try to
5 get fishermen to use the ADAMS website down on the
6 Altamaha, they are not going to do it. So this is a
7 real, real problem that we're all dealing with right
8 now.

9 Moreover, the NRC's public notice, as an
10 example, that went out on November 2 of this meeting,
11 contained an inaccurate link to the public electronic
12 reading room. I tried to access it and it didn't
13 work, and fortunately I got ahold of Andy Kugler who
14 works on the Hatch relicensing issues, and he gave me
15 a current one.

16 Well, for a lot of people that got that
17 link, that's all they'll do, they'll go to that link
18 and it doesn't work and they think they don't know how
19 to use their computer and then they just go home. So
20 again, the accuracy of information that's going out
21 right now, we have to be very aware of when there are
22 mistakes made.

23 For citizens concerned about issues at
24 Plant Hatch in south Georgia, unless they have a hard
25 copy of the relicensing documents, it is difficult for

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1 them to look up concerns that would be relevant to
2 today's meeting because those relicensing documents
3 are no longer available on line. We did have a link
4 to it on our website, but you know, we all know it's
5 not working.

6 So folks that addressed me from the
7 Darien, Brunswick, Baxley area that wanted to come to
8 the meeting wanted to look at those notes. And you
9 know, I can cut and paste what I wrote up and other
10 things, but once again, you know, to keep people
11 interested like that, they're not going to jump
12 through hoops like that and none of us really should
13 expect them to because we know how boring -- some of
14 you are glazing over right now -- these meetings can
15 sometimes be.

16 Therefore, we feel it is important to both
17 extend the public comment period until these documents
18 can be made readily available. Also, it is essential
19 to provide more meeting locations to gather public
20 comments.

21 Four locations is not enough, given that
22 we have nuclear reactors that will eventually be
23 decommissioned in many states and the public, as I've
24 said, has had difficulty accessing the information.
25 We don't even have any nuclear reactors in Atlanta and

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1 nobody wants to come to Atlanta -- I don't want to
2 come to Atlanta.

3 I like Savannah. It's a long drive and
4 yet I'm doing this full time and 60 some years from
5 now when Plant Hatch finally gets decommissioned, I'm
6 going to be retired but I'm still going to be hobbling
7 up to these meetings because I'm dedicated and I'm
8 very concerned about it.

9 But I think we do need to extend the
10 public comment period to address the inability of
11 getting the information easily, and have more
12 meetings. And I know that's a burden on the NRC staff
13 because not a lot of people show up, but there are
14 some very good comments that come out of these
15 meetings and they're important.

16 Georgians for Clean Energy promotes the
17 shutdown of our unsafe nuclear power plants here in
18 Georgia and the phase out of nuclear power nationwide.
19 We also advocate for sound, systematic policymaking
20 regarding decommissioning. Since many nuclear
21 contaminants are extremely long-lived and dangerous to
22 humans and the environment, decommissioning measures
23 need to be handled most carefully, as our future
24 generations literally will depend on how well the job
25 is done today.

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1 The notion presented by industry and
2 others that decommissioning is inherently safe because
3 the plant is no longer operating is a deceptive
4 argument that confuses the public. Due to the nature
5 of radiation, even after shutdown, parts of the plant,
6 as we know, remain highly contaminated and extremely
7 radioactive. The nuclear waste, such as the spent
8 fuel produced by the plant during operation generates
9 heat and emits radiation for thousands of years after
10 the plant is shut down. Therefore, there is risk to
11 the workers at the plant and to the local communities
12 during decommissioning.

13 Getting onto a brief comment on security,
14 as many things are being reviewed in light of
15 September 11, the decommissioning of nuclear reactors
16 should be no exception. From what I've heard today,
17 it sounds like there will be some sort of analysis of
18 security issues and I hope that's directly relating to
19 this decommissioning document. As we know, the draft
20 EIS is grossly deficient in ensuring that security
21 measures are taken to protect our homeland security
22 from threats of sabotage at a nuclear plant.
23 Georgians for Clean Energy request that a thorough
24 amended review of necessary security measures be
25 compiled by the NRC and added to the supplement.

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1 Again, this highlights the need for an
2 extended comment period and careful analysis of this
3 issue. For instance, I'm sure there are a number of
4 nuclear security organizations worldwide that perhaps
5 this draft and others within the NRC could be opened
6 up to get their comments and maybe their suggestions
7 of what they're doing in other countries or whatever,
8 because we're looking at a global assault now, not
9 just one person down in south Georgia acting like a
10 weirdo.

11 It is now abundantly clear that nuclear
12 materials are desired by terrorist organizations. Not
13 only are our operating nuclear power plants terrorist
14 targets but so too is the nuclear waste they generate.
15 Since a decommissioned nuclear power plant would have
16 a greatly reduced security force, the closed plant
17 could provide an easier opportunity for terrorists to
18 obtain nuclear material.

19 In the case of plants like Hatch, that
20 have outdoor storage of nuclear waste, the notion of
21 a reduced security force is even more troubling. And
22 I probably have a question in there because I wasn't
23 sure, reading through the document itself, where, like
24 the outdoor storage facilities at Plant Hatch and
25 elsewhere -- how they are dealt with after the plant

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1 itself is decommissioned and if the license is
2 terminated. I'm not sure how that works and who's
3 responsible and I would like more clarification on
4 that. So maybe I can get some of these cards
5 afterwards.

6 And then getting to the site-specific
7 concerns, and I didn't ask questions during Ms.
8 Hickey's forum because I can't even formulate them
9 because I'm so confused by that section.

10 Georgians for Clean Energy does not
11 believe that a Generic Environmental Impact Statement
12 regarding decommissioning of nuclear facilities is a
13 sufficient tool for evaluating impacts borne to
14 specific environments from decommissioning a nuclear
15 power plant. We disagree with the process -- and it
16 happened during the Hatch relicensing too -- the
17 process of using the significance levels of small,
18 moderate and large for a variety of issues at a
19 variety of locations, to come up with a generic one-
20 word answer. The classifications are generic in form,
21 hard to understand and even though it's small,
22 moderate and large which sounds easy, I fundamentally
23 have a hard time explaining that.

24 Crabbing season is listed, you know, as a
25 small concern because it's a small aquatic problem.

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1 I can't even say that clearly because it's just very
2 confusing; therefore, it is difficult to figure out
3 how the NRC came to those characterizations.

4 We disagree with the NRC conclusion that
5 most of the environmental issues they addressed are
6 deemed as quote, generic and small for all plants,
7 regardless of the activities and identified variables,
8 end quote.

9 I would enjoy hearing the response to that
10 statement from fishermen downstream of Plant Hatch on
11 the Altamaha or Plant Vogtle on the Savannah. Once
12 again, that's where having other meetings outside of
13 the area could gather some useful information that may
14 have been missed and maybe site specific that wasn't
15 addressed earlier.

16 As we saw in Eva's presentation, at least
17 two site-specific environmental issues were
18 identified, threatened and endangered species and
19 environmental justice, with four other issues listed
20 as quote, conditionally site specific. That is
21 ludicrous.

22 We request that licensees undergoing or
23 planning decommissioning require a new environmental
24 assessment. This will become more clear as I go on.
25 It is not acceptable to give the option of using

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1 recent environmental assessments. What is the
2 definition of recent? For instance, data from the
3 1970s on several fish and seafood species was
4 originally used in the EIS for Plant Hatch
5 relicensing.

6 Though newer data later emerged because of
7 Fish and Wildlife Service and other people raising a
8 bunch of concerns, we finally got new information. I
9 don't have any safeguard that Plant Hatch won't use
10 studies from the 1970s or from the year 2000 on the
11 endangered species such as the shortnose sturgeon when
12 they begin decommissioning decades from now.

13 So I would like a definition of what is
14 recent and if we're talking about endangered and
15 threatened species, that list is going to change when
16 a lot of these power plants actually go through
17 decommissioning because species are being put on and
18 taken off those lists all the time. So what is
19 recent? I would request, our organization requests,
20 that they always have a recent, a new, like that year
21 that they decide to decommission, an environmental
22 assessment.

23 Additionally each nuclear power plant has
24 a different historical performance record that may
25 have impacted the surrounding environment in ways that

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1 are unique to the facility. What makes it acceptable
2 to ignore these operating histories when
3 decommissioning?

4 Furthermore, some nuclear plants, like
5 Hatch, have overflowing volumes of nuclear waste that
6 are now being stored outdoors which impacts the
7 environment and could affect decommissioning.
8 Likewise, there is no experience in decommissioning
9 nuclear reactors that have operated beyond the
10 original 40-year license period. Again, Plant Hatch
11 may pose a unique example if the aging plant is
12 relicensed.

13 The degradation that will occur due to the
14 constant bombardment of radiation could affect how the
15 plant is dismantled and how the radiation exposures
16 will be for workers and could easily add new accident
17 scenarios. For instance, Plant Hatch has a cracked
18 core shroud, and I know other plants do, too. But I
19 don't know -- that's question, I guess, have any of
20 those been dismantled? How will that deficiency
21 affect decommissioning? These factors, among others,
22 must be incorporated in addressing the decommissioning
23 of individual facilities.

24 Ed Martin touched on economic concerns and
25 we have some similar and a couple different from his.

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1 Georgians for Clean Energy requests that all
2 decommissioning costs be borne by the parent company
3 of the licensee in perpetuity. The parent company
4 should not be allowed to recoup the cost of
5 decommissioning from the ratepayer or federal
6 government through the taxpayer.

7 Ratepayers and taxpayers in Georgia have
8 already had to pay far beyond their share of promised
9 cheap nuclear power that has brought one of the
10 largest rate hikes in the history of Georgia.
11 Furthermore, private landowners, whether residential
12 or commercial, farms, federal, state, county, city,
13 community properties or others should not be
14 responsible for the costs of monitoring, containment
15 or clean-up.

16 Georgians for Clean Energy is also
17 concerned about economic impacts to the local
18 communities associated with decommissioning.
19 Currently, according to the NRC relicensing documents
20 on Hatch, Appling County, where the plant is located,
21 receives an unhealthy 68 percent of its tax revenue
22 from Southern Nuclear. Provisions for environmental
23 staff and maintenance staff be established in
24 perpetuity and all costs be borne by the parent
25 company of the licensee.

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1 The local community should not have to
2 shoulder these costs. In the case of Appling County,
3 after they lose their tax base, they would not even be
4 able to remotely afford any type of monitoring.
5 Again, it is apparent that communities are left
6 dealing with tremendous problems and little or no
7 resources to address them properly. Quite a reward
8 for being loyal to the company.

9 Regarding economics, the NRC needs to pay
10 attention to decommissioning costs proposed by Georgia
11 nuclear utilities during rate cases and other
12 proceedings so there is not a situation created where
13 much needed monitoring and maintenance is ignored
14 simply because there was no regulatory attention to
15 the real cost of decommissioning.

16 I'm finishing up. My apologies for taking
17 more than five minutes.

18 On the environmental side, we have several
19 concerns with the environmental impact section of the
20 draft. Again, we feel that a site-specific analysis
21 must be done for each individual nuclear plant. This
22 includes the area of the site itself, along with
23 downstream and downwind regions and all areas within
24 the ingestion radius of the facility. There are right
25 now already elevated levels of some radioactive

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1 contaminants nearly 100 miles downstream of Plant
2 Hatch and Plant Vogtle.

3 It is hard to believe that decommissioning
4 activities will have a small impact on water quality
5 or air quality. Construction and demolition sites
6 across Georgia, most of which do not have nuclear
7 contaminants fortunately, contribute to the
8 degradation of our rivers and air. How can an
9 enormous project such as decommissioning an entire
10 nuclear plant, which will involve the handling of
11 nuclear contaminated materials have a small impact?
12 We request a copy of the analysis that was done to
13 make this determination.

14 Additionally, a thorough analysis of
15 groundwater impacts seems lacking. Given Georgia's
16 current concern over the Floridian aquifer, it is
17 again hard to believe that something fundamental to
18 life , water, is being analyzed generically. Future
19 generations will depend on the resources that we are
20 polluting today.

21 We adamantly disagree with the possibility
22 of rubblization as a method of decommissioning.
23 Chopping up a plant and storing it on site not only
24 sounds ridiculous, but also is grossly negligent of
25 the fact that there are facilities designed, built and

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1 licensed to handle radioactive materials . Georgians
2 for Clean Energy does not promote the idea of shipping
3 nuclear waste to other people's backyards, but
4 recognizes that although organizations critical of
5 nuclear power often forewarned local communities of
6 these potential dangers, plant owners never told
7 communities near nuclear plants that they were also
8 accepting a permanent nuclear waste dump.
9 Rubblization is an egregious assault on the public
10 participation process and a devious example of
11 corporations casting aside those communities that
12 supported them over the years.

13 Georgians for Clean Energy also opposes
14 any efforts by the nuclear industry or licensee of a
15 decommissioning nuclear plant to "recycle" -- and I
16 use that in quotes -- radioactive materials for
17 release into the marketplace. It is appalling that
18 there may be an option for companies involved in a
19 technology that can cause its own facilities to become
20 radioactive, to financially benefit from selling the
21 hot garbage to unsuspecting citizens in the form of
22 daily household products.

23 Under health and safety. The nuclear
24 facility's land, even after decommissioning, must not
25 be allowed to revert to public or private use, even if

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1 the NRC believes that the radioactivity on the land is
2 less than 25 millirems per year. Additionally, in no
3 circumstances should future buildings, structures,
4 etc. be built atop the former nuclear site.

5 The draft GEIS mentions that tourism
6 activities are planned for the Trojan nuclear plant in
7 Oregon after decommissioning. Under no circumstances
8 should that be allowed at any of these sites.
9 Bringing tourists or school groups to nuclear plants
10 that are running now is not acceptable. It's
11 dangerous. I was just in Oregon for my honeymoon, and
12 I just can't imagine going and touring that site.
13 There are a lot of beautiful things in Oregon but the
14 Trojan plant ain't one of them.

15 MR. CAMERON: Sara, are you going to wrap
16 up for us?

17 MS. BARCZAK: Yeah, I'm on the last page.

18 MR. CAMERON: Thank you.

19 MS. BARCZAK: As we have stated in earlier
20 comments, adequate attention to issues surrounding
21 economic justice and the long-term negative economic
22 implications of decommissioning plans in the community
23 have not been thoroughly studied. Reactor sites are
24 often contaminated and made undesirable and unsafe for
25 future economic development. And again, we feel that

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1 site-specific studies should be conducted. The
2 economy of rural Georgia is much different from that
3 of urban New York.

4 In conclusion, as we have stated earlier,
5 the methods used to decommission a nuclear plant will
6 affect not only the communities of today but also the
7 livelihood of future generations. The nuclear
8 industry is leaving humankind a legacy of devastation,
9 epitomized by its long-lived and highly dangerous
10 nuclear waste.

11 They are unable to solve their waste
12 problem and now, when faced with the eventual shutdown
13 of their plants, are unwilling to take measures to
14 ensure that the public is protected. The NRC is
15 charged to protect the quality of the human
16 environment and we ask that they can -- that they do
17 all they can to uphold that charge. The current draft
18 GEIS is not protective and needs major improvement.
19 We again stress system need for site-specific EIS
20 studies on decommissioning for nuclear power reactors.
21 Our communities, from the people to the waterways, are
22 unique and entitled to nothing less.

23 Thank you very much.

24 MR. CAMERON: Okay, thank you, Sara.

25 (Applause.)

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1 MR. CAMERON: Can you give us a copy that
2 we can attach to the transcript?

3 MS. BARCZAK: Yes.

4 MR. CAMERON: Okay. If you can be
5 patient, if we have time, when we hear from the rest
6 of the people, I noted a couple of questions that you
7 asked that maybe we can provide you with some
8 information on. Also, after the formal comments, I'm
9 going to ask Barry Zalzman from the NRC staff to just
10 say a few words about what the Commission is doing in
11 terms of security threats to the plants.

12 Adele, would you like to come up now.
13 This is Adele Kushner. Steve, do you want to put that
14 down for Adele? And, Adele, if you want to come up
15 here, you can.

16 MS. KUSHNER: I don't have -- well, okay.
17 I don't have that much to say.

18 MR. LEWIS: Go up to that one.

19 MR. CAMERON: Come on up here.

20 MR. LEWIS: I'm a lawyer. I know how to
21 do this.

22 (Laughter.)

23 MR. CAMERON: That's the least of his
24 problems.

25 (Laughter.)

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1 MS. KUSHNER: Thank you.

2 My name is Adele Kushner and I'm with
3 Action for a Clean Environment, which is a group
4 located in northeast Georgia -- very rural northeast
5 Georgia. But all of our members live about 50 miles
6 from the Oconee plant, so we're specifically
7 interested in what's going on.

8 I'm not really prepared for this. Our
9 group deals with so many issues, air quality problems
10 from asphalt plants and feed mills and anything else
11 that comes up. Also, I haven't even read that big
12 fat supplement. So I'm just speaking in response to
13 what I have learned, and the more I learn, I think the
14 worse it gets. I would love to have a copy of Sara's
15 comments because she hit on a whole lot of stuff that
16 I would like to know more about.

17 What I do know, I learned from someone who
18 lives and works near the Yankee Rowe plant in
19 Massachusetts and told a group of us what happened
20 when it was decommissioned and cut apart. You know,
21 closed down and cut apart. She said the whole process
22 was just horrendous. The cost is one thing. It was
23 awful, very high cost, up in the millions. I don't
24 remember how much. But things that shouldn't have
25 been done did happen and things -- you know, when they

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1 were washing some of the surfaces to prepare for
2 cutting apart and shipping the washwater -- I've
3 spoken about this to some of the people already. It
4 just went into the ground. It was supposed to be
5 contained and it wasn't. And other things like that
6 that happened that were not supposed to happen, but
7 they do happen.

8 I don't know if it was the supervision, or
9 the plan, or whatever it was. I understand this was
10 after 1991 when there had been experience with some
11 decommissioning. It was -- it was poorly done. There
12 was danger to the workers. The workers were not
13 prepared. They didn't -- whatever the -- the
14 moonsuits they were supposed to wear or something,
15 they often didn't. And it was -- I mean it's
16 dangerous.

17 This is a very dangerous material and the
18 danger lasts for such a long time. If you're going to
19 cut apart a plant and pack it and ship it, everybody
20 along the route is exposed to the danger and whatever
21 is left is an exposure to the people who still live
22 there. You talk about burying it somewhere, well
23 everybody is in danger when you do this kind of thing.
24 So it doesn't make any sense to me to ship things off
25 to someplace else. You need to keep it where it is

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1 and somehow seal it off, and then you have to monitor
2 it for years and years and years because none of this
3 goes away. So the whole process just seems like it's
4 fraught with difficulty.

5 Generic things sound good, but each plant
6 is different. I was originally thinking well, they
7 are all kind of the same system, so it wouldn't
8 matter, they are on the same principle, but they're
9 not. I mean, there are differences.

10 The Oconee plant, which I'm near, which
11 we've gone to visit, it scares me. I mean the
12 reactors look like they're really solid. One thing
13 they're going to do is cut into the wall to take -- to
14 change the steam generator. They're only going to put
15 it back and somehow -- is it going to be as strong as
16 it was before? The excess storage -- I mean the
17 storage in pools, but there's a whole lot setting out
18 in dry casks very vulnerable to whatever comes along,
19 whatever happens. I mean the whole thing is just --
20 I don't know how in the world they're going to deal
21 with it.

22 I'm now concerned about the costs, about
23 all the broken promises, because these all sound --
24 all these systems sound so good. But I can remember
25 -- I'm old enough to remember when this was going to

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1 be clean, safe and cheap. Electricity was going to be
2 too cheap to meter. That sticks with me. And we know
3 that it's as expensive as anything possibly could be
4 when you consider the whole -- the whole cycle from
5 the mining of the uranium to what happens afterwards.
6 There's a huge process. It affects people's health.
7 Workers especially who are not warned, who are not
8 protected.

9 I'm not prepared but I'm going to learn
10 some more.

11 MR. CAMERON: Okay, thank you very much,
12 Adele.

13 (Applause.)

14 MR. CAMERON: Next we're going to go to
15 Paul Genoa and then we're going to go to Janet Zeller,
16 Lou Zeller, Glen Carroll and Tom Ferguson, if he
17 wishes to say something.

18 Paul.

19 MR. GENOA: Yes, thank you, Chip. Paul
20 Genoa with the Nuclear Energy Institute.

21 The question goes to the issue of the
22 rubblization and the language in the GEIS that puts
23 part of it out of scope and part of it is discussed as
24 being covered under the generic environmental impact
25 statement supporting the license termination rule.

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1 The heart of the comment and question really gets at
2 the issue that from our perspective is not yet covered
3 in that license termination rule and the assumptions
4 embedded in that GEIS. And that has to do with the
5 scenario of what happens and what are the assessments
6 for the radiological materials post license
7 termination.

8 The rubblization is one angle that begs
9 that question. A similar one is a technical issue we
10 talk about as an embedded pipe. If you can imagine,
11 a large nuclear facility with very thick walls. You
12 know, three or four feet thick with piping that
13 penetrates these walls. In fact, the piping is
14 literally embedded within the concrete walls. The
15 standard approach is to truncate that piping as it
16 breaks into an open room. To clean that piping -- the
17 length of that piping, to survey that piping, then to
18 seal the ends of that piping and fill it with the
19 grout or some other material to fix any residual
20 radioactivity within -- inside of it.

21 The license termination rule would have
22 you access the potential dose to a occupational
23 worker in what they call the building scenario, or
24 building occupancy scenario. We understand how you
25 might address the potential exposure from this

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1 embedded pipe onto an individual who would work in
2 that room. You might sum that direct exposure from
3 the pipe with all other exposures that might occur
4 from materials within the room, put them together,
5 compare it to the standard, 25 millirem, and determine
6 whether you meet the criteria or not.

7 The question is do you need to assume some
8 refurbishment scenario post-license termination? Do
9 you have to assume that someone determines it would be
10 in their benefit to knock the wall down, to remove
11 this embedded piece of pipe and to do something with
12 it? You know, one could postulate that.

13 The question the industry asks is how do
14 we address that. Do we come up with some scenario and
15 refurbishment that would account for that? What would
16 that scenario look like? We need that information so
17 that we can do those assessments. Our understanding
18 and reading of that GEIS and the license termination
19 rule is that that refurbishment scenario is not
20 limiting, that, in fact, the building occupancy
21 scenario of someone working 40 hours a week, etc.,
22 etc., in that room is limiting if that's the case.
23 That's what we wanted to know.

24 I draw the parallel because this is
25 similar to the rubblization idea. Again, the idea

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1 that when you dismantle these buildings, knock them
2 down, there will be basement structures. You're going
3 to knock them down and you're going to end up with
4 rubble on the side. You need to fill these basement
5 voids. You either need to bring material from off
6 site or you could potentially use some of this fill,
7 this rubble fill as beneficial fill for these
8 facilities. There could be residual radioactivity
9 associated with it and it would be subsurface.

10 Again, the issue is post-license
11 termination. How do you access a potential risk to a
12 member of the public from that material? It's fairly
13 straight forward to understand that the resident
14 farmer scenario requires you to assume that that
15 residual radioactivity could affect a resident farmer
16 through groundwater pathways, inhalation and
17 ingestion. You know, getting into crops, irrigation,
18 all of that.

19 The question is, is there some unique
20 pathway that needs to be assessed for this material,
21 such as an intruder pathway? Do we have to assume
22 post-license termination that someone comes in and
23 digs up this material and uses it to build a pier or
24 uses it for rip-rap or for a roadbed or some other
25 material?

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1 Clearly the industry could calculate the
2 results of those scenarios. It was our understanding
3 in reading the original GEIS for decommissioning back
4 in '88, that that was considered and assumed to be
5 non-limiting. That the resident farmer would be, in
6 fact, limiting.

7 Our understanding was this GEIS would sort
8 of beef that up because of this new idea; however, it
9 appears that that was sort of left out of scope and
10 appropriately maybe so. Perhaps that is in the scope
11 of the license termination rule. But my point in all
12 of this -- and I know it's rather technical and I'll
13 be happy to express in layman terms anything that's
14 not easily understood.

15 The industry wants to do the right thing.
16 They need to know what the requirements are. This
17 issue of what are these hypothetical potential
18 pathways post-license termination, I believe, one
19 easily addressed. We just need to know what the
20 boundaries are and what the assumptions are that we
21 need to impose, if any. We had hoped for some of that
22 to come out in GEIS. It may still be appropriate to
23 do so, otherwise perhaps other guidance is necessary.

24 MR. CAMERON: Okay, thank you, Paul.

25 I think the staff, and our expert

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1 consultants, have gotten the drift of that question or
2 comment really. I know there's a question there. I
3 guess I would want to make sure that the staff,
4 including Office of General Counsel staff gets with
5 you to make sure we understand it, provide any
6 information to you after the meeting for that
7 discussion. And if there's any clarifications we can
8 offer, if we still have time before the meeting is
9 over, we'll do that.

10 Thank you very much.

11 MR. GENOA: Yeah, I appreciate it. Chip,
12 there was a few questions asked earlier. I had
13 thought about commenting on one of them. Is it
14 appropriate to do so now or would you rather wait?

15 MR. CAMERON: Why don't we wait and make
16 sure that we go to you for those comments so that we
17 can get everybody else on right now.

18 Janet, are you ready?

19 MS. ZELLER: Yes, I am.

20 MR. CAMERON: All right.

21 MS. ZELLER: Okay, can people hear me --
22 loud?

23 VOICE: Yes.

24 MS. ZELLER: Okay. My name is Janet
25 Zeller and I'm Executive Director of the Blue Ridge

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1 Environmental Defense League. We'll have our birthday
2 -- 18th birthday as an organization in March. We work
3 in North Carolina, South Carolina, Tennessee and
4 Virginia and occasionally in north Georgia. I'm
5 looking forward to coming back to Adele's community in
6 February.

7 We have some grave concerns about the
8 process. I would like to just say that we would like
9 to reiterate the comments so beautifully presented by
10 Sara Barczak about the process. There is a real
11 problem I think with public knowledge about the
12 opportunities for input into NRC's decision making.
13 And one of my favorite attorneys describes the NRC
14 decision making processes and draft documents as
15 whipsawing the public because it really may matter to
16 you, Ms. Hickey that the license termination document
17 details one level of exposure while the draft EIS on
18 decommissioning details another level of exposure.

19 But to the people in the affected
20 communities, it is a problem and that problem is one
21 that they're going to have to live with after the NRC
22 has washed its hands of the site. So we do have some
23 real problems with the fragmentation of the decision
24 making process and the public participation
25 opportunities, and believe that indeed that there are

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1 NEPA violations.

2 We are on record opposing the license
3 extension for -- in fact, we've intervened in the
4 license extensions for the Duke reactors, McGuire 1
5 and 2 and Catawba 1 and 2. We believe that the
6 decommissioning document has definitely underestimated
7 the impacts of the additional license extension
8 period. In fact, the minimization of that impact I
9 think is a major flaw in the document in that there
10 needs to be a reassessment of all of the impacts,
11 including cost, but also including the aging issues,
12 including the waste issues and other off-site
13 environmental impacts for license extension periods.

14 The potential use of plutonium fuel at the
15 McGuire and Catawba reactors is not adequately
16 addressed in decommissioning -- in this decommission
17 document. In fact, the costs of decommissioning are
18 nowhere to be found. So we would request that there
19 be a supplement right away before mistakes are made in
20 licensing the use of plutonium fuel at the McGuire and
21 Catawba reactors because the decommissioning impacts,
22 including costs, and also including the additional
23 radioactivity, the additional waste, those are real
24 impacts that are basically left unaddressed in the
25 generic environmental impact statement for

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1 decommissioning.

2 We're familiar with some of the
3 decommissioning models that the NRC is using. Believe
4 me, Yankee Rowe, Connecticut Yankee and Maine Yankee
5 are not good models for anyone to follow for
6 subsequent decommissioning.

7 In fact, this is such an important issue
8 that it really is inappropriate, I think, to make it
9 up as you go along. We were able as an organization,
10 with some help from our friends from the Citizens
11 Awareness network in western Massachusetts to track
12 the train carrying decommissioned parts of Yankee Rowe
13 from western Massachusetts all the way to Barnwell.

14 Now this was supposed to be a dead secret,
15 what route the train was taking through the several
16 states, Pennsylvania, Virginia, et cetera, on its
17 route to the burial ground near our Aiken, South
18 Carolina office. It was very easy for us to, with
19 little man and woman power, to do the train spotting
20 for tracking -- no pun intended -- the route, the
21 progress of this -- of this waste shipment.

22 So I hear in Rockville, Maryland at the
23 Atomic Safety -- no Atomic Reactor Safety Board
24 meeting and at the recent hearing in Rock Hill, South
25 Carolina and again tonight that there is a top to

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1 bottom review of security and terrorism issues, yet
2 the process of decision making continues unabated. We
3 need a cessation in NRC decision making until there is
4 this top down review of security and terrorism issues.

5 If an organization like ours can spot a
6 train carrying very dangerous radioactive waste, any
7 terrorist organization can do the same thing. You've
8 got to take that into consideration. The whole
9 approach -- the whole probablistic approach to risk is
10 inappropriate. You must assume that whatever can go
11 wrong will go wrong and that should be the level at
12 which your risks are evaluated, not some unrealistic
13 dream-like assessment of probability that isn't real
14 world anymore.

15 I'd like to invite you to come to
16 Charlotte. At the last hearing that NRC had in
17 Charlotte, which is in the midst of four nuclear
18 reactors, we had standing room only. Chip was there.
19 One hundred and fifty people I counted before I
20 stopped being able to count. We could, I think, fill
21 up a hearing room so that you could hear from the
22 citizens who are directly affected by your decision
23 making that is on going.

24 There are changing community conditions at
25 these reactors. I don't mean to be disrespectful to

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1 the representative from NEI, but we don't have a
2 problem in the Charlotte area of a resident farmer.
3 We're more likely to have a golfer going on the site
4 of a former nuclear plant to retrieve a golf ball
5 because the -- against a unanimous decision by the
6 Mecklenburg County Planning Board -- last night the
7 Mecklenburg County Board of Commissioners approved a
8 4,000-plus home development by Crescent, which is, of
9 course, Duke, around the Catawba reactor. So there
10 are changing conditions at these nuclear power plants
11 that deserve your attention and will not fit into any
12 generic environmental impact statement.

13 Twenty-five millirems additional per year
14 of exposure added to an increasing background, which
15 is certainly man made, and I say man made. I mean
16 women had very little to do with the decisionmaking
17 that went into increasing the background radiation
18 that all of us are exposed to. But 25 millirems per
19 year additional exposure is way too much.

20 Mr. Scaletti may have that kind of dose to
21 salt his cells, and his gene repair mechanisms may be
22 sufficient to withstand that dose and he may not get
23 a fatal cancer. Mr. Masnik may get a fatal cancer
24 from an additional 25 millirem per year dose. This is
25 a roulette game. So the dose is way out of line for

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1 the restricted use, not to even mention the
2 unrestricted use, which I'll get distressed if I do,
3 so I won't.

4 So I do ask you to look at what we were
5 promised by the PR in slick talking pictures in color
6 when nuclear power was first laid out to decision
7 makers and to the people of the North Carolina
8 Electric Membership Corporation who -- well,
9 unsuspecting, idealistic folks decided to buy two-
10 thirds of Catawba 2 nuclear plant. Which actually I
11 guess as a member of one of those coops, I own a piece
12 of it as well.

13 And we were tacitly or directly promised
14 a 50-year cooling period for the nuclear power plants.
15 I can go back and drag out some of those documents if
16 you want to see that. And two-year cooling periods
17 for Yankee Rowe before it's chopped up and
18 decommissioned is unthinkable. You know, we will not
19 approve of and we will fight diligently in every
20 opportunity and arena we have a hot, quick and dirty
21 decommissioning which violates the promise of future
22 -- safety to future generations.

23 So I'm really interested in this
24 entombment rule making process and I promise you that
25 we will have a lot to say about that because that

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1 really is the only option for what to do with these
2 plants. I certainly heard Eva loud and clear, that
3 the amount of exposure for decommissioning is less
4 than for operating reactors. So our organization is
5 certainly in favor of decommissioning. Let's just do
6 it right.

7 (Applause.)

8 MR. CAMERON: Thank you very much, Janet.
9 As we noted before, if anybody needs a copy of the
10 entombment rulemaking, we'll make sure that you get a
11 copy. I think the comment period closes on, again,
12 like this, December 31st. We'll get that clarified.
13 Thank you for the information on the Mecklenburg
14 approval.

15 Lou Zeller.

16 MR. ZELLER: My name is Lou Zeller and I'm
17 on staff of the Blue Ridge Environmental Defense
18 League and I have been since 1986.

19 My comments tonight fall into several
20 general areas, but I want to begin with one brief
21 comment, which I think is worth quoting directly
22 because it's so striking. Within the executive
23 summary it talks about the potential radiological
24 impacts following license termination related to
25 activities during decommissioning are not considered

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1 in this supplement.

2 Within the same paragraph it talks about
3 the non-radiological impacts following license
4 termination that are related to activities performed
5 during decommissioning are considered in this
6 supplement. We are considering in this supplement the
7 non-radiological impacts following license
8 termination, not the radiological impacts after a
9 license termination. This is a radiological device,
10 a nuclear reactor. I cannot understand how that could
11 even be in the executive summary to describe the
12 document which is under review.

13 I do want to talk about the physical
14 protections and the existing regulations under 10 CFR
15 7355. I guess I could state this as more or less of
16 a question. For example, what measures will the
17 Commission employ during decommissioning to protect
18 against radiological sabotage?

19 I understand fully that this document is
20 to cover non-accident decommissioning activities, but
21 once a reactor is decommissioned, I find nothing in
22 this thick document where it addresses at all the
23 generic, or under generic or site-specific issues the
24 impact and the effects on the structure, systems and
25 components of an event which happens during

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1 decommissioning.

2 And, of course, the radioactive fuel pools
3 are the principle source in that case of radioactive
4 contamination. Even 10 CFR 73.55 falls short in our
5 estimation in the preparations for such a scenario.
6 10 CFR 73.55 considers only primary physical security
7 barriers for vehicles, for isolation zones, for access
8 to the plant, for detection of intrusion and what not.
9 For example, it mentions that there be bullet
10 resistant walls, floors and doors in reactor control
11 rooms. Well plainly this 10 CFR 73.55 needs to be
12 updated because this is woefully inadequate to
13 consider anything which is now possible after
14 September the 11th.

15 Even within this existing rulemaking
16 process for existing outline of environmental impact
17 assessment, the actions to date which the Commission
18 is taking leave me to scratch my head. For example,
19 on November the 21st of this year, Maine Yankee
20 received information regarding as classified,
21 safeguards information that is, for the purpose of
22 amending the license for an exemption from 10 CFR
23 73.55.

24 This document here, which was pulled down
25 by my colleague from the Adams site, talks about it

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1 quite specifically. Although there's not a lot of
2 detail here, it does talk about the fact that the
3 independent fuel storage installation sabotage
4 assessment performed by the staff in review of Maine
5 Yankee Atomic Power Company's application for license
6 amendment and exemption, Maine Yankee is undergoing
7 decommissioning.

8 Now my point in bringing this up is that
9 the NRC cannot continue to allow rulemaking to be
10 driven by exemption as it has been done in the past.
11 It lowers the bar for all subsequent actions every
12 time an exemption is made.

13 The second major issue that I would like
14 to cover in my comments tonight -- and we will be
15 submitting written comments before the comment
16 deadline -- has to do with radiation effects during
17 decommissioning operations. In appendix G there is a
18 fair amount of detail about the Veer 5 (ph) report and
19 the excess cancer deaths and the estimates from that.

20 Within appendix G, there is information
21 which gives an estimate from radiation impacts to the
22 public of 0.8 percent. That is 800 fatalities per
23 100,000 people. It's also outlined as 8 times 10 to
24 the minus 4 fatalities per person rem. Those are
25 stochastic effects, of course, only outlined in this

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1 report.

2 One problem here is that the only non-
3 stochastic effects considered in the GIS -- GEIS are
4 those related to above threshold doses which cause
5 such things as cataracts or other high dose
6 morbidities. This is unacceptable. There are many
7 morbidities which are associated with low dose
8 radiation which do not rise to the level of effects on
9 cataracts, such as the effect on the human immune
10 system and many other non-cancer effects. This is
11 missing from the generic statement.

12 Okay, to continue on to the effects
13 outlined with regards to radiation protection
14 considerations in decommissioning, the generic -- the
15 appendix G on page G-4 says that in Veer 5, quote, in
16 general, estimates of risk derived for doses of less
17 than one gray or 10 rems are too small to be detected
18 by direct observation in epidemiological studies.

19 Number one. The linear dose response
20 model, which is outlined again in this document, does
21 not meet reasonable conservative risk analyses which
22 are based on the super linear dose response
23 relationship, which is, I think, once again a
24 conservative method of estimating the effects on the
25 public as well as workers in a plant during

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1 decommissioning -- well at actually any time.

2 Continuing along these same lines, the
3 risk factor here of 0.8 percent amounts to, as I said
4 before, 800 fatalities per 100,000 people. If we look
5 at the existing decommissioning estimates of 11-person
6 rems from the Haddam Neck Plant in Connecticut, this
7 would amount to 8,800 fatalities per 100,000 people.

8 Now, again, the document here outlines the
9 fact that most -- the major impact from radiation
10 would be from low level radioactive waste transport of
11 the reactor itself, the vessel, to a low level
12 radioactive waste site. People living all along the
13 waste site, primarily people living in town around
14 that reactor, and all along the transport route along
15 the way to -- if it's South Carolina or Nevada or
16 whatever ultimate destination this reactor vessel
17 would have, amounts to many thousands of people, if
18 not hundreds of thousands or millions of people. This
19 level of human carnage cannot and should not be
20 considered as quote, too small to be detectable.

21 Thank you.

22 MR. CAMERON: Thank you very much, Lou.

23 Glen.

24 MS. CARROLL: I'm so impressed with what
25 I'm hearing here tonight. My name is Glen Carroll and

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1 I'm with Georgians Against Nuclear Energy. I met Chip
2 Cameron eight years ago -- nine years ago over this
3 issue. I want to say that I feel really honored to be
4 participating. I feel like we're all here, we're
5 pioneers. We don't know how to decommission and we're
6 trying to figure it out.

7 So I would say with this kind of work,
8 with maintaining good will towards each other and
9 maybe a little prayer and divine assistance, I hope
10 we're going to end up doing a good job.

11 Oh, Eva -- now I don't know, this is a
12 pretty good thing to keep up there. Do you think you
13 could get the definition up there because I'd kind of
14 like a power point assist. However, I did keep
15 looking and I did find it in the EIS. It's sort of
16 like rubblization.

17 (Laughter.)

18 MS. CARROLL: Oh, hey, Warren. He
19 transcribes all of our stuff when we intervene at the
20 NRC. I've known him for a long time, too, through
21 Georgia Tech, which is decommissioning and they didn't
22 invite me to a meeting.

23 Okay, the process of safely removing a
24 facility from service followed by reducing residual
25 radioactivity to a level that permits termination of

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1 the NRC license.

2 So, you know, except for the fact that
3 there's only one universe I know about and it's got
4 all of this radiation in it and there's like no way to
5 take it to -- I don't know, it's not a real perfect
6 premise. I'm real happy to see entombment is coming
7 up and getting more discussion because it is the area
8 that we look to, the avenue that we think will yield
9 the most protection for the public ultimately.

10 One of the things that has to be
11 acknowledged I think or anticipated is the failure of
12 the United States nuclear waste program on all levels,
13 so that low level dumps are not getting established,
14 high level dumps are not getting established.
15 Therefore, we may really have to keep a lot more of
16 this radiation on site than we had anticipated.

17 There's a financial assurance gap here, I
18 feel, and this has been mentioned several times
19 tonight. I'll say two syllables -- Enron. And we've
20 got nuclear power plants, you know, they're fast
21 becoming white elephants and getting snapped up at
22 Salvation Army prices by multi-national corporations
23 -- Enron. And we don't really know if we're saving up
24 enough money -- and I could be wrong about this but I
25 thought the money was somewhat linked to the rate base

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1 and all these plants are not operating for their
2 design life.

3 And so I'm real concerned that the fund
4 was never -- the goal was never set correctly to begin
5 with and that we would fall short on raising the
6 money, it may not be enough. There is inflation. So
7 what I don't know is are these figures periodically
8 revisited and adjusted -- they are. I would think the
9 utilities would tend to howl about that.

10 Is there assurance or something for a
11 corporation a couple of generations removed from the
12 corporation that actually originally licensed and
13 built the plant? They are paying, you know, sometimes
14 a tenth or a quarter of the decommissioning fund that
15 they acquire with the plant, and so, you know, I would
16 like to know what the assurance is that that money
17 won't be absconded with and just disappear -- Enron.

18 Love Canal, kudzu, gypsy moths, zebra
19 mussels. One idea that we've talked about for a long
20 time, and we actually had a big meeting about it and
21 I think the idea is probably still alive, the site-
22 specific advisory board. Really this is outside of
23 engineering and physics, this is thinking political
24 science, archaeology. But thinking archaeology ahead
25 of time, how can the people remember -- whatever we

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1 decide, how can the people remember, how can we
2 regulate -- you know, what kind of systems can we set
3 up?

4 And so I'm an artist by profession that
5 wandered into this arena. I don't get this lax visual
6 imagery, I'd like to see more pictures. So I'm going
7 to describe an idea I have for you -- entombment taken
8 to an aesthetic level.

9 You've got like contaminated soil, maybe
10 even mill tailings if we could figure out how to get
11 them there -- fill everything in and just build out
12 soil barriers, barriers, barriers, make it a pyramid,
13 make it vast, make it huge -- sell tickets for the
14 first few generations. And I even think possibly the
15 geometric -- the geology of this might even be an
16 earthquake that just keeps falling in on itself. You
17 hit it with something, it just keeps falling in on
18 itself.

19 Now there's a question of subterranean --
20 what's the subterranean issue here and, you know,
21 forget practicality, forget cost, which I would like
22 to do that, I mean I really would not like cost to be
23 much of a factor here. We need to do what it takes.
24 So probably you need some subterranean things,
25 definitely a site-specific idea I've got here.

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1 And then let's plant spider worts around
2 it because everybody knows that spider worts are shown
3 to -- they have these little blue hairs, maybe they're
4 called stamens or something that's the pollinator part
5 of it, and they are like these incredible plants that
6 -- there's this perfect correlation for the amount of
7 radiation exposure it gets.

8 These little things turn pink, these
9 little hairs turn pink. And it's been like studied
10 and it's a good correlator. So we need to plant the
11 spider worts, which is basically a weed and then we
12 need to teach the people how to analyze. You know, we
13 can't forget the technology of microscope. That's
14 pretty easy -- lenses. And the site-specific advisory
15 board and actually, you know, this sounds kind of
16 corny, but I'm your artist speaker tonight -- the
17 nuclear priesthood has been talked about seriously.
18 Religion is probably a good model for long memory.

19 I cannot thank my colleagues enough for
20 being really prepared with really thoughtful, with
21 technical comments. I think the fact that we've been
22 working on this for nine years -- I remember you from
23 previous meetings -- this is deliberate and it's
24 what's required to do it.

25 Thank you.

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1 MR. CAMERON: Thank you, Glen. And thanks
2 for applying your creativity to the process too.

3 MS. CARROLL: Oh, wait, I forgot
4 something.

5 MR. CAMERON: Glen Carroll again.

6 MS. CARROLL: I'm not going to invoke
7 Atlantis or Elvis -- I could -- and Diablo. I figure
8 it's getting subducted over there on that leading edge
9 and that might be a solution, you know, underneath the
10 mantle.

11 MR. CAMERON: Okay, thank you, Glen.

12 Tom, did you want to say a few words for
13 us?

14 MR. FERGUSON: Tom Ferguson, Physicians
15 for Social Responsibility. Very few words.

16 My executive director asked me to express
17 our concern for we want this process to be
18 transparent. Allow public accessibility to the
19 process, knowledge of the standards. Do no harm. We
20 represent physicians who take the Hippocratic Oath.
21 Take no risks that can be avoided. It seems
22 ridiculous to come in here and say to professionals
23 "be careful." But Adele quoted the too cheap to be
24 metered promise and there's some credibility problems,
25 so be careful.

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1 We'll be submitting written comments.

2 MR. CAMERON: Okay, thank you, Tom.

3 I think there's a number of things that we
4 might be able to clarify. This is not the time for
5 the NRC staff to try to comment on the comments that
6 we've heard, but there were a number of questions
7 within the comments that I think that it might be
8 useful since we have a little bit of time, for the NRC
9 to provide some clarification on.

10 I'm just going to list some of these that
11 I took down and then I'm going to ask Barry Zalzman
12 from the NRC staff to just give us a little bit of a
13 review of what the NRC is doing. We heard this top to
14 bottom or bottom to top, whatever, review.

15 But I think Sara Barczak indicated that
16 there was some ambiguity about how was spent fuel
17 treated under this decommissioning process and of
18 course there's various ways to store spent fuel and
19 maybe Eva can talk a little about that one when we get
20 there.

21 Again, Sara talked about using the example
22 of how do you explain to a fisherman small, medium,
23 large; that that might not sit well. And I thought,
24 Eva, perhaps you could just talk a little bit more
25 about the small, medium and large. I know you already

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1 talked about where that was derived from, from the
2 Council on Environmental Quality, but perhaps you can
3 say a little bit more about that.

4 Lou Zeller read a statement from the
5 executive summary about non-radiological after license
6 termination being considered, but yet some
7 radiological not being considered. And I think
8 there's a fairly straight-forward answer to that, that
9 I think Eva can also address.

10 And finally, I think it might be -- Glen
11 brought up Enron and decommissioning and is the fund
12 tied to operation. And Steve, it might be worthwhile
13 for you to just say a little bit about that fund and
14 what happens, the bankruptcy implications, all that
15 sort of deal so that we can give some assurance on
16 that.

17 And I think that other people in the
18 audience may have some comment. I don't want us to be
19 commenting on other people's comments, okay? Because
20 I don't think that that's appropriate to do that. But
21 if you do have a fact that might be useful information
22 for people, I'm thinking, Paul, you said that you had
23 a couple perhaps comments, maybe facts we can get out
24 here to increase all of our understanding of this.

25 And before we get to those questions,

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1 Barry, do you want to come up and just say a little
2 bit about what the Commission is doing in what we call
3 Safeguards, protecting these facilities against
4 possible terrorist attack? Barry -- it's Barry
5 Zalcman.

6 MR. ZALCMAN: Barry Zalcman again from
7 staff.

8 Actually I was going to talk a little more
9 --

10 MR. CAMERON: I hate to give this to you
11 since you said I'm going to talk a little bit more --

12 MR. ZALCMAN: I like this instrument a
13 little better.

14 Before I go into security, I touched on it
15 at the outset, I'll talk a little more about it, I
16 want to bring us back because there's a lot of good
17 points that you had raised, all of you, about issues
18 perhaps that don't apply to this supplemental GEIS.
19 I want you to understand what happens with information
20 that comes to the agency. We take away your comments
21 and we identify what is relevant to the action that
22 we're trying to deal with now -- this is a
23 supplemental GEIS, we identified what the scope of the
24 GEIS is.

25 It's operating in environmental space

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1 under the guise of the National Environmental Policy
2 Act and the agency's regulations in that arena. It is
3 not operating in safety space -- that's an important
4 distinction. There are matters in safety space that
5 have environmental components. You talk about the
6 design of the facility and the environmental factors
7 that lead to adequate protection -- earthquakes,
8 tornadoes and the like. Those are environmental
9 factors but they are considered part of the design
10 basis of the facility. That is different than what we
11 look at in environmental space under NEPA -- that's an
12 important distinction.

13 And a couple of the issues that you
14 raised, while they may not be directly attributable to
15 the scope of the environmental impact statement, we
16 think are going to be sufficiently important to share
17 with the other groups within the agency and
18 particularly issues associated with the events of
19 September 11. The Safeguards Group, we will share
20 that information with them as they consider what the
21 actions of the agency should be in response to the
22 events of September 11.

23 Now we have already taken some actions.
24 We've gone into high alert, we've issued advisories,
25 licensees have enhanced their security activities at

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1 the plants. The agency has an operations facility,
2 operations center, it's manned 24 hours a day. We
3 beefed up our staffing of that. Management is engaged
4 in that process as well as additional staff. Our
5 regions have incident response centers, they have been
6 manned as well.

7 I can share with you that we do have an
8 ongoing intergovernmental dialogue at the federal
9 level. We also have it at the state level,
10 interactions with state organizations, governors and
11 the like.

12 So there are a lot of activities that are
13 already ongoing immediately in response to September
14 11 and then we have to look at where do we go from
15 here. That's where I talked about the top down
16 review. The Commission has already directed the
17 staff, there is a task force underway looking at what
18 needs to be done. That is likely to result in perhaps
19 changes. That will be shared in a public arena.

20 Now I lament the same challenge that you
21 have -- and I'm looking at Sara -- the same challenge
22 that you have. When the events of September 11
23 occurred, the nation went into a lockdown. We were
24 looking at not just the infrastructure that was
25 challenged, meaning our economic base in the World

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1 Trade Center, but there is our entire infrastructure
2 across the country that is vulnerable and we are
3 looking at target assessments. I'm talking about the
4 federal government, not just the Nuclear Regulatory
5 Commission -- target assessments to decide what
6 additional measures need to be taken.

7 We're in contact with Homeland Security,
8 we're in contact with the NSC/NSA, National Security
9 Council, National Security Agency, as to what we need
10 to deal with. And we're not alone, it's going to
11 affect a lot of other things as well.

12 So looking forward as the agency comes out
13 and lays out its recommendations, I will share with
14 you that some of it is not going to be publicly
15 accessible. You don't want us talking about this in
16 public. Some things will be publicly accessible and
17 we will seek stakeholder engagement on those issues
18 and when the opportunity presents itself, do stay
19 aware of it.

20 Now what is the formal mechanism for the
21 agency releasing information? It's through the
22 Federal Register. The agency did make an attempt to
23 release it. Since we went into lockdown as the
24 government, we decided that there was information that
25 could lead to vulnerabilities that could support

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1 unlawful acts that we had to guard against. And
2 because of that, we brought down our website and we
3 are rebuilding it as best we can. It is still
4 www.nrc.gov.

5 If you go to that, you'll be able to see
6 the best information that we have available. Our
7 ADAMS system is back up, but there is information
8 regarding sites that we are not going to share until
9 we feel comfortable enough that we're sharing the
10 right information.

11 When we did release the GEIS for public
12 comment, it did go through the Federal Register, but
13 it is a GEIS, it is not all things to all people.
14 It's not going to satisfy every single issue. In some
15 of the issues that you have raised, we've identified
16 what is within scope and what is outside scope. There
17 are different processes involved.

18 You know, license termination is at the
19 back end of decommissioning. Some of these activities
20 are at the front end of decommissioning. And it's not
21 that we're parsing the issues, but we have a
22 fundamental responsibility to provide the best
23 information available. The GEIS is 13 years old, we
24 have additional information that we can share with the
25 public. We think it's fundamental to share that with

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1 the public. It is a living document. This is
2 Supplement 1. There will be a Supplement 2, there
3 will be a Supplement 3. There will be additional
4 information that we gain through the experience that
5 we have to continue to update this information.

6 Sara, you have the opportunity to
7 participate with us on license renewal. We have a
8 commitment, we have a GEIS for license renewal, we
9 have a commitment every 10 years to revisit that, just
10 to make sure we learn from the experience and we
11 update the information. So we are moving in that
12 direction, we are going to update the information.

13 Hopefully that brings you back to focusing
14 your opportunity. We've taken your comments already,
15 we look forward to written comments and hopefully this
16 kind of dialogue is what can expand your understanding
17 of the document, focus your issues and we look forward
18 to receiving them certainly before the end of the
19 year.

20 We hope that that provided sufficient
21 opportunity, we distributed how many, over 300 copies
22 of the GEIS nationwide through our earlier experience
23 with scoping and through the interactions that we've
24 had trying to reach out to those parties that did have
25 an interest, expressed an interest already. We may

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1 not have covered everybody, but we're hoping that
2 communication does exist within the public as well to
3 focus issues, target the issues and get us the best
4 information you can share with us.

5 So hopefully that is useful. I didn't
6 want to take anybody else's thunder away, but this
7 kind of interaction is essential and how we operate in
8 safety space may not be the same as how we operate in
9 environmental space. This is an open process, this is
10 a transparent process.

11 I don't know if any of you realize but
12 Sara has changed the way we do our environmental
13 documents already. There was an issue that was raised
14 on Hatch between scoping and the draft document, there
15 wasn't a clear path and we have changed not just the
16 document you worked on, which was the Hatch
17 Environmental Impact Statement, but even in this one,
18 Appendix A is the in scope activities that were raised
19 during the scoping period, and from now and hopefully
20 forever more, that's the way we're going to do
21 business. But it's through the public interaction
22 that helps us do our job better.

23 So with that, thank you.

24 MR. CAMERON: Okay, thank you very much,
25 Barry, for providing that information and what I'd

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1 like to do now is ask Eva perhaps to start us off by
2 -- if you could just talk a little bit about
3 clarifying how spent fuel storage is addressed in the
4 GEIS and in decommissioning and perhaps say a few more
5 words about small, medium and large.

6 MS. HICKEY: So the first thing you want
7 me to talk about is how spent fuel is incorporated in
8 this document?

9 MR. CAMERON: And I think the larger
10 question might have been how is spent fuel dealt with
11 in the decommissioning process and it may be that
12 staff will need to supplement that, but I think that's
13 what Sara was trying to find out.

14 MS. HICKEY: Okay. Spent fuel is one of
15 those issues where there were parts of the spent fuel
16 issue that we looked at in decommissioning activities
17 and that was removing the fuel from the reactor and
18 putting it into the spent fuel pool. The storage of
19 spent fuel from there on out either in the spent fuel
20 pool or in dry cask storage is one of those activities
21 that's considered outside of scope. And in Appendix
22 D, we talk about where those issues on spent fuel are
23 further addressed.

24 From our perspective, it's not that they
25 aren't addressed, it's just that we're not addressing

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1 them in this GEIS. They are addressed in other
2 documents.

3 And I guess with that, likewise I will say
4 once again that's also true for the radiological
5 impacts after license termination. Those impacts are
6 addressed in NUREG-1496, I think is the appropriate
7 number. And that's the GEIS for license termination.

8 What we tried to do in the document is
9 direct the reader where the other areas were
10 addressed. And there are a number of them, but in
11 Appendix D, there's a little more discussion about
12 that. Okay?

13 MR. CAMERON: Okay, that's good and after
14 the small, medium and large, perhaps you could address
15 the question that Lou had that non-radiological after
16 license termination versus radiological after license
17 termination. The seeming oddness that --

18 MS. HICKEY: Okay. I think the thing to
19 do is discuss that right now. Because the
20 radiological impacts are discussed elsewhere, we've
21 chosen to say they are out of scope. However, the
22 non-radiological impacts after decommissioning are not
23 addressed in other NRC documents, and therefore,
24 that's why we've addressed those in our document. We
25 say they are in scope.

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1 I like to think that in fact what we've
2 tried to do is look at this process holistically. I
3 think somebody used that term. We couldn't put
4 everything in the supplement, it would have been too
5 large and too difficult to handle. But what we've
6 tried to do is tell the reader where to go to find the
7 other information.

8 And hopefully with your comments, if
9 that's -- if we weren't totally successful in that
10 from your comments, we can go back and take another
11 stab at that.

12 But that's why we've addressed non-
13 radiological impacts in this document, following
14 license termination, but not the radiological impacts.

15 Okay, now let me talk a bit about the
16 small, moderate and large. And since you were
17 specifically interested in some of the aquatic
18 impacts, I'm going to put Duane on the line here. I'd
19 like you, Duane, if you could just explain the
20 evaluation and the conclusions from the aquatic
21 analysis and the fact that we've said that those
22 impacts are small, and what that means.

23 MR. NEITZEL: I need that definition.

24 MR. CAMERON: And I would just note while
25 Duane is coming up that in reference to where Sara was

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1 starting from in terms of the fishermen, for example,
2 that the fact that an impact is said to be small
3 doesn't mean that it's not an important issue, an
4 important resource to be looked at. And I don't know
5 if there's any confusion about that or not.

6 MS. HICKEY: Oh, okay.

7 MR. NEITZEL: When we were doing the
8 impact stuff and going through those matrices, I was
9 responsible for focusing on the aquatic stuff. As a
10 team, we kept looking back to this level of
11 significance that's listed here in the executive
12 summary and then it occurs again, it's on page xiii in
13 the executive summary.

14 And that's what we kept coming back to,
15 small being not detectable or so minor that it won't
16 destabilize or noticeably alter the attribute or the
17 resource that we were dealing with. Moderate,
18 sufficient to alter but not destabilize. And large,
19 clearly noticeable and are sufficiently large and
20 could alter the system -- so we looking at those.
21 Again, whether it was aquatic, terrestrial, but in
22 those terms -- detectable -- or not detectable,
23 detectable but not going to destabilize the situation,
24 or clearly detectable and could cause some
25 alterations.

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1 So that was our guidance and then when we
2 looked at issues and subissues like in aquatic, we
3 looked at fish, plants, the community -- you know, all
4 these issues. And are the activities that are within
5 the scope -- and then we went back to the definition
6 of generic, which is also in here, that the impacts --
7 again, this starts on, in the executive summary on
8 page 8 of the executive summary. Has the issue been
9 determined to apply to all plants or some plants of
10 specific -- we've got examples here -- specific size,
11 specific location.

12 I remember on location, we were dealing
13 with fresh water versus marine, riverine versus lake.
14 So specific location. For specific type of cooling
15 system or site characteristics and then looking now
16 does this type of impact to fishery apply to all
17 sites, or do we have to lump them in marine or
18 freshwater.

19 Then we described, we looked at these
20 criteria for small, moderate and large, and assigned
21 that. And those are in these matrices that are in the
22 appendix, on how we stepped through that matrix each
23 time, each time going back and looking at these
24 definitions. That's what we dealt with and we're
25 hoping we communicated to all the readers. And then,

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1 you know, what does it take to mitigate that if there
2 is some associated impact.

3 So it was stepping through the matrices
4 that are in here by those definitions. And I think
5 one of the things that we talked about a lot on Eva's
6 team and we talked with NRC on this, on making these
7 statements, is the generic, we were not asked to
8 preclude an assessment of an impact at a later date.

9 Generic was at this point in time with
10 this information to say here are the impacts that are
11 going to require site-specific information, you know,
12 as this process proceeds. And one of the important
13 things that we keep hammering ourself with, NRC keeps
14 saying is there's always new and significant
15 information that can arise and working for NRC, it's
16 our responsibility. NRC has it, I know they look for
17 it, the licensees do. We get stuff from the public
18 also. You know, new and significant information means
19 a new assessment.

20 So don't take -- or at least this is the
21 way I've been taught in working this -- don't take
22 generic as it's off the table, take generic as, you
23 know, we've lumped these together so you can focus on
24 what we think at this time is important and then look
25 for new and significant information so we can come

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1 back to these that are new and significant. But these
2 definitions were really important to following that.
3 And I think if you apply that -- no disruption, you
4 can apply that to terrestrial plants, to a fish
5 community, a mussel community -- all these other
6 issues.

7 MS. HICKEY: So in fact when we say that
8 to the aquatic ecology, the impact is small and
9 generic, what we're saying is for all the
10 decommissioning activities and the evaluation that we
11 did, that we didn't see any disturbance in --

12 MR. NEITZEL: Detectable, nothing
13 detectable.

14 MS. HICKEY: Detectable disturbance to the
15 aquatic ecology.

16 MR. NEITZEL: And that's based on
17 information we got from the public, it's based on the
18 review of literature, it's based on our visiting power
19 plants that were being -- were in the process of
20 decommissioning. The -- what do you call it --
21 history or the experience -- you had a specific
22 phrase, what we've learned so far, what we're learning
23 as we go along. And then the open literature,
24 technical reports and published documents.

25 And so what we're saying is based on all

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1 that information, we don't see where the activities
2 inside the operating fence for aquatic communities
3 will even be detectable, they're so small that you
4 won't even see them, they're small, they're going to
5 be the same everywhere and that's the statement we've
6 -- that was the conclusion we came up with. That's
7 how we did that.

8 MR. CAMERON: Okay, Duane, thank you. And
9 thank you, Eva, I think that was very helpful.

10 And Janet, if you could just hold on your
11 question for one -- comment -- for one minute, I want
12 to make sure that we have some clarification on the
13 financial assurance question, because it's an
14 important question.

15 Steve, could you come up here and just --
16 the two basic issues that Glen raised were the
17 stability and the amount of the fund, okay, for
18 decommissioning. And second of all, what happens in
19 a situation -- what happens in an Enron situation. So
20 if you could just do those for us and then we'll go
21 on.

22 MR. LEWIS: Steve Lewis, General Counsel's
23 Office, NRC.

24 One thing I wanted to say is that a number
25 of comments that I heard which were to the effect that

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1 we ought to include more on the costs of
2 decommissioning in this GEIS, was something that
3 struck me as a very, very thoughtful comment and I'm
4 accordingly, thinking about them, which means I don't
5 have a response to them right now, but I thought they
6 were good points.

7 The -- as far as bankruptcy goes, this is
8 obviously a point of considerable concern to the
9 federal government and fortunately the Department of
10 Justice agrees with us that there's a good deal of
11 case law that we have on our side to the effect that
12 these funds are not part of the assets of the estate
13 that are available to be invaded, if you will, or used
14 by other creditors. They're treated as outside the
15 estate for that purpose. They are considered to be
16 governmental in nature and they also partake of a
17 protection that is related to their health and safety
18 and environmental protection function.

19 Having said that, bankruptcies are very
20 contentious proceedings and so we don't just rest on
21 the fact that we have cases that say what we think
22 will protect us. We go to the Department of Justice
23 and we get the Department of Justice attorneys to
24 represent us and vigorously make sure that those cases
25 are accepted by the bankruptcy judge and that the

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1 monies in those trust funds are preserved for the
2 purpose that was established.

3 That's really all I had to say unless
4 there was some aspect of this that I missed.

5 MR. CAMERON: No. I think that what
6 you're -- in case it isn't clear, but that the
7 decommissioning fund is not going to be affected by
8 bankruptcy because the fund is there and the creditors
9 of that corporation can't get at that fund. It's
10 preserved. So I think you've done it, Steve.

11 MR. LEWIS: That's correct.

12 MR. CAMERON: Thank you very much.

13 This is, is the fund tied to operation.
14 Is that what you're going to talk about? Who knows
15 what you're going to talk about.

16 (Laughter.)

17 MR. MASNIK: Rather than try to interpret
18 your understanding of his question, I'll just respond
19 directly to hers. She had a couple of comments. One
20 had to do with periodically updating the fund, which
21 periodically it is updated, and the staff does an
22 assessment of burial costs which change over time, and
23 licensees then adjust their amount of money that they
24 put aside. That was the question.

25 MS. CARROLL: And the other is, isn't this

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1 fund built through rates, so what happens if it goes
2 off line or even if the company is no longer billing.
3 There seems to be a couple of vulnerabilities.

4 MR. MASNIK: Yeah, the requirement of the
5 regulations is to put the fund aside. It doesn't
6 really specify how the licensee gets the money.
7 Licensees of course hope that they can pass that cost
8 on to the ratepayers but if the PUC, for example,
9 doesn't approve it, the licensee has to put in the
10 funds out of their own profits.

11 You mentioned also that you were concerned
12 about premature shutdowns and we've actually had a
13 number of plants -- the regulation to establish a
14 decommissioning trust fund came into being in 1988.
15 We had a number of plants shut down in the late '80s
16 and early '90s and obviously the fund was not fully
17 funded.

18 In those cases, the licensee has continued
19 to collect funds and contribute to their
20 decommissioning trust fund. And what they have done,
21 of course, is model their decommissioning activities
22 around the availability of funds. If they still have
23 60 years to do it, in some cases the licensee would
24 either put the plant in long term storage for a couple
25 of years or they would pace the decommissioning

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1 activities to match the funds.

2 In one case, in Trojan, there was a period
3 of time where they actually exceeded the amount of
4 funds that they -- or they speculated that they would
5 exceed the amount of funds in their trust fund, in
6 which case they went out and borrowed money to
7 continue the decommissioning.

8 So the bottom line is that licensees have
9 been very creative about obtaining the money and
10 continuing the decommissioning process. We were very
11 concerned about these plants, particularly the
12 premature shutdowns, whether or not they would be able
13 to accumulate the funds. It appears that so far
14 everything has been going along reasonably well.

15 MR. CAMERON: Great. Thanks.

16 Thank you, Mike, that was great. It's
17 getting close to time, we're going to take time for a
18 couple of factual observations and then close off with
19 a comment from Janet.

20 Paul.

21 MR. GENOA: Thank you, Chip. Paul Genoa,
22 Nuclear Energy Institute.

23 It was Ed Martin who asked the question
24 about sort of the discrepancy or the debate between
25 the EPA and the NRC standard for site cleanup or

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1 license termination and I think that has been an
2 obstacle to public understanding and acceptance of
3 decommissioning. While it's not unexpected, if you
4 gave two different regulators authority over the same
5 activity that they might develop different approaches
6 towards regulating that activity -- and in fact that
7 is the case.

8 They did develop different approaches, but
9 when one looks into it and if one really goes in depth
10 into looking at it -- and of course, these are
11 technical issues and we all like to sort of come up
12 with a quick sound bite like answer and unfortunately
13 they don't always lend themselves to that, the reality
14 is, as was noted in a GAO report on the EPA and NRC
15 standard, that the results actually are very similar,
16 of the two approaches, that they both protect public
17 health and safety.

18 Now one would think that 15 millirem on
19 average per year versus 25 millirem on average per
20 year -- that one would look at that and say well
21 obviously 15 is less than 25, therefore, it must be
22 more protective. In fact, one has to look more
23 closely at what the assumptions are. Twenty-five
24 millirem by the NRC is an all pathway analysis that
25 assumes the worst case in any year.

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1 EPA assumes a 30-year average, what is the
2 average exposure over an entire 30-year period. In
3 fact, when you look at light water power reactors that
4 we're talking about here, who typically have cobalt
5 and cesium as the prime isotopes that drive the
6 exposure, you find that the NRC model of 25 millirem
7 for those isotopes which doesn't take into account
8 decay because it's the worst case, generally the first
9 year after license termination -- actually results in
10 a more strict standard than a 15 millirem average over
11 30 years. In other words, you can leave more
12 radioactivity behind under the EPA standard, by the
13 way it's designed, for light water reactors than you
14 can under the NRC standard.

15 So that was the point I wanted to make.
16 And the most recent policy issue that you could look
17 to is that recently at the West Valley Project, the
18 EPA found that the NRC standard of 25 millirem was
19 acceptable and was protective of public health and
20 safety at that site. It met EPA's criteria.

21 MR. CAMERON: Thank you very much, thank
22 you, Paul.

23 Janet, do you want to give us one comment
24 before we adjourn for tonight?

25 MS. ZELLER: I guess I'd like to just

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1 comment that to the public and to many non-profit
2 organizations, generic means you may say this, you may
3 not say that; this is on the table, that is not on the
4 table. And what happens is that people do make
5 comments that affect their communities and affect
6 their safety and if they are indeed outside the scope
7 of a particular process, I would truly love to believe
8 that those comments are not lost. But at this point,
9 my experience doesn't lead me to be sure that that's
10 the case.

11 So I'm challenging NRC staff, all of you
12 I believe are genuine in your concern about our
13 welfare, and I would challenge you not to lose any of
14 the comments that have been made about security or any
15 other issue that you consider outside the scope. And
16 make certain that those do surface somewhere.

17 I'd also like to point out that what
18 happens in the real world is different from your
19 idealistic presentations and your idealistic views of
20 what ought to be happening. And we have such things
21 as the nuclear waste train carrying Yankee Rowe waste
22 coming into the town of Roanoke at 9:00 on a Friday
23 evening with a street festival going on and you know
24 where the railroad track goes in Roanoke, it comes
25 right into downtown.

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1 And all of the highways were blocked off
2 for the festival, there were thousands of people
3 there, having come into the county for this festival.
4 And that train sat there for hours. And if they were
5 really only emitting 10 millirem per hour at six feet
6 -- and believe me, people were closer than six feet,
7 a bunch of them ran up to it, although our people who
8 were there tried to stop them and get the crowd to
9 move away from the train. There was nobody there who
10 was doing that function except us.

11 And so, you know, in the real world, what
12 -- the decisions that you make come down to people's
13 communities and so I don't need to preach at you --
14 well, yeah, I do. You've got to do better, you've got
15 to make assumptions that are way more conservative
16 than what you're doing. And you've got to assume
17 human failings.

18 And so much of what is in this document
19 depends on the skills and the experience level, which
20 are lacking, because decommissioning is new, just like
21 plutonium fuel is new. NRC does not know what it's
22 doing, the people who are on these reactor sites don't
23 know what they're doing and so if safety depends on
24 human capability, it does too much by the way in this
25 document, then you know, that's not very reassuring

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1 and I'm glad I've got the last word.

2 (Laughter.)

3 MR. CAMERON: Thank you very much, Janet.
4 And for the NRC, thank all of you who came out tonight
5 and thank you for your comments and challenging
6 comments in a lot of respects. So thank you, we're
7 adjourned.

8 (Whereupon, the hearing was concluded at
9 10:00 p.m.)

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