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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
+ + + + +
PUBLIC MEETING TO DISCUSS
DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
FOR LICENSE RENEWAL
OF NINE MILE POINT NUCLEAR STATION UNITS 1 AND 2

+ + + + +

THURSDAY

NOVEMBER 17, 2005

+ + + + +

OSWEGO, NEW YORK

+ + + + +

The public meeting was held in the
Conference Room at the Town of Scriba Municipal
Building, at 7:02 p.m., Chip Cameron, Facilitator,
presiding.

PRESENT:

- RANI FRANOVICH, NRC
- LESLIE FIELDS, NRC
- BRUCE McDOWELL, NRC
- BOB PALLA, NRC
- JAMES HUTTON
- LINDA BOND-CLARK
- RICHARD EMCH, NRC

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PRESENT (continued) :

TOM DELLWO

MICHAEL MASNIK, NRC

KATHERINE HOBBS

C O N T E N T S

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P R O C E E D I N G S

(11:06 a.m.)

1
2
3 MR. CAMERON: Good evening, everyone. My
4 name is Chip Cameron, and I work for the NRC. And
5 it's my pleasure to be your facilitator for tonight's
6 meeting.

7 And I just want to briefly cover three
8 items on meeting process before we get to the
9 substance of our discussions.

10 First of all, the format of the meetings,
11 we're going to do it in two parts. The first part is
12 to give you information on the background on license
13 renewal, specifically the environmental review,
14 including the findings that are in the draft
15 environmental impact statement.

16 I would emphasize the word, draft. The
17 environmental impact statement will not be finalized
18 for use in the NRC's evaluation process of the renewal
19 application that we receive from Constellation to
20 renew the operating licenses for the Nine Mile Point
21 nuclear station, units one and two.

22 That leads me to the second part of the
23 meeting, which is to hear from anybody who wants to
24 make comments, give us advice, recommendations, on the
25 draft environmental impact statement.

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1 And NRC staff will be telling you how to
2 submit written comments on this subject later on
3 tonight.

4 Ground rules, very simple. It's when we
5 get to the question period after the NRC's
6 presentation we'll ask for questions. If you have a
7 question just signal me, and I'll bring you this
8 cordless microphone, introduce yourself, and ask your
9 question.

10 And then when we go to the comment period,
11 we'll ask you to come up here to give us comments.

12 The speakers tonight, we're going to start
13 with a welcome from Rani Franovich, who is right over
14 here. And Rani is the chief of the Environmental
15 Review Section of the license renewal and the
16 environmental review program at the NRC.

17 And she has a varied background. Rani's
18 staff is responsible for the preparation of these
19 environmental impact statements, and environmental
20 assessments.

21 And Rani was a resident inspector at the
22 Catawba plant. She was also the project manager on
23 the safety reviews for Catawba and McGuire license
24 renewal. And she was the enforcement coordinator in
25 our office of Nuclear Reactor Regulation.

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1 And she got a bachelor's in psychology
2 from Virginia Tech, and also a master's in industrial
3 and systems engineering from Virginia Tech.

4 So she will give you an overview on
5 license renewal, and then we're going to go to the
6 project manager for the environmental review, and that
7 is Leslie Fields, who is right here. And Leslie has
8 been with the NRC for nine years. Before that she was
9 with an engineering firm in the nuclear field I
10 believe.

11 And she has a bachelor's in chemical
12 engineering from the University of Southern
13 California, USC, and a master's in environmental
14 management from the University of Maryland, or almost
15 a master's in environmental management.

16 And after Leslie, we will go on to see if
17 there are any questions. And then we're going to go
18 to Mr. Bruce McDowell, who is one of our consulting
19 experts.

20 Bruce is the team leader of the various
21 experts that we had do the environmental review, and
22 he will tell you some more about that. And he is with
23 the Lawrence Livermore National Lab. Master's in
24 resource economics, and a Ph.D. from University of
25 California at Davis in atmospheric sciences. Almost

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1 a Ph.D.

2 And right now he's acting deputy director
3 of the counter-terrorism and incident response
4 division, Lawrence Livermore National Lab.

5 We'll go to questions after he talks about
6 the draft environmental impact statement, and then
7 we're going to go to Mr. Bob Palla from the NRC staff,
8 who is a probabilistic risk assessment expert; engages
9 in severe accident analysis.

10 And he got his master's and bachelor's
11 from University of Maryland in mechanical engineering.

12 So we want to give you plenty of
13 opportunity to ask questions tonight, and also to give
14 us any comments that you have.

15 And with that I'm going to go to Rani who
16 will start us off for this evening.

17 MS. FRANOVICH: Thank you, Chip.

18 I'd like to begin by thanking everyone for
19 coming out today. I know we're all busy, have busy
20 schedules, and your participation in this process is
21 very important to us. So I just want to thank you for
22 your time for being with us tonight.

23 I hope the information we provide you this
24 evening will help you understand the process we're
25 going through, what we've done so far, and the role

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1 you can play in helping us make sure that the final
2 environmental impact statement for Nine Mile Point is
3 accurate.

4 I'd like to start off briefly by going
5 over the agenda and the purpose of today's meeting.

6 We'll explain the NRC's license renewal
7 process for nuclear power plants with emphasis on the
8 environmental review process.

9 Then we are going to present the
10 preliminary findings of our environmental review,
11 which assesses the impacts associated with extending
12 operations of the Nine Mile Point Nuclear Station
13 units one and two for an additional 20 years.

14 And really the most important part of
15 tonight's meeting is for us to receive any comments
16 that you may have on our draft environmental impact
17 statement.

18 We also will give you some information
19 about the schedule for the balance of our review, and
20 we'll let you know how you can submit comments in the
21 future.

22 At the conclusion of the staff's
23 presentations, we will be happy to answer any
24 questions you may have. However, I must ask you to
25 limit your participation to questions only, and hold

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1 your comments until the appropriate time during
2 tonight's meeting.

3 Once all questions are answered, we can
4 begin to receive any comments that you have on the
5 draft environmental impact statement.

6 Next slide please.

7 Before I get into a discussion of the
8 license renewal process, I'd like to take a minute to
9 talk about the NRC in terms of what we do, and what
10 our mission is.

11 The Atomic Energy Act is the legislation
12 that authorizes the NRC to issue operating licenses to
13 nuclear power plants.

14 The Atomic Energy Act provides for a 40-
15 year license term for power reactors. This 40-year
16 term is based primarily on economic considerations,
17 and antitrust factors, not on the safety limitations
18 of the plant.

19 The Atomic Energy Act also authorizes the
20 NRC to regulate the civilian use of nuclear materials
21 in the United States.

22 In exercising that authority, the NRC's
23 mission is threefold: to ensure adequate protection of
24 public health and safety; to promote the common
25 defense and security; and to protect the environment.

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1 The NRC accomplishes its mission through
2 a combination of regulatory programs and processes,
3 such as conducting inspections, issuing enforcement
4 actions, assessing licensee performance, and
5 evaluating operating experience in nuclear power
6 plants across the country and internationally.

7 The regulations that the NRC enforces are
8 contained in Title 10 of the Code of Federal
9 Regulations, which is commonly referred to as 10 CFR.

10 As I've mentioned the Atomic Energy Act
11 provides for a 40-year license term for power
12 reactors. Our regulations also include provisions for
13 extending plant operations for up to an additional 20
14 years.

15 For Nine Mile Point, units one and two,
16 the operating licenses will expire in 2009, and 2026,
17 respectively.

18 Nine Mile Point Nuclear Station, LLC, a
19 subsidiary of Constellation Energy Group, has
20 requested license renewal for both units.

21 As part of the NRC's review of that
22 license renewal application, we have performed an
23 environmental review to look at the impacts of an
24 additional 20 years of operation on the environment.

25 We held a meeting here in September of

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1 2004 to seek your input regarding issues we needed to
2 evaluate. We indicated at that earlier scoping
3 meeting that we would return to the town of Scriba to
4 present the preliminary results, documented in our
5 draft environmental impact statement.

6 That is the purpose of this meeting. And
7 the environmental impact statement, our draft that we
8 published, for public comment, is on the table at the
9 back of the room. You are welcome to a copy.

10 Next slide.

11 The NRC's license renewal review is
12 similar to the original licensing process in that it
13 involves two parts: an environmental review and a
14 safety review. This slide gives a big picture
15 overview of the license renewal process involving
16 those two parallel paths.

17 Safety review is illustrated at the top of
18 the slide. And then the environmental review is
19 represented at the bottom.

20 I'm going to briefly describe these two
21 review processes, starting with the safety review.

22 Next slide, please.

23 You might ask, what does the safety review
24 consider? For license renewal, the safety review
25 focuses on aging management - aging management of

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1 systems, structures, and components that are important
2 to safety as determined by the license renewal scoping
3 criteria that are contained in 10 CFR Part 54.

4 The license renewal safety review does not
5 assess current operational issues such as security,
6 emergency planning and safety performance. The NRC
7 monitors and provides regulatory oversight of these
8 issues on an ongoing basis under the current operating
9 license.

10 Because the NRC is addressing these
11 current issues on a continuing basis, we do not
12 reevaluate them in license renewal.

13 As I've mentioned the license renewal
14 safety review focuses on plant aging, and the programs
15 that the licensee has already implemented or will
16 implement to manage the effects of aging.

17 Let me introduce Mr. Tommy Lee, the safety
18 project manager. Tommy, stand up. Thank you.

19 Tommy is in charge of the safety review,
20 and tomorrow at 1:30 there will be an exit meeting for
21 an audit of the Nine Mile Plant, 1:30 in this room at
22 this location; that will be open to the public.

23 The safety review involves the NRC's
24 staff's evaluation of technical information that is
25 contained in the license renewal application. This is

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1 referred to as the safety evaluation.

2 The NRC staff also conducts audits as part
3 of that safety evaluation. There is a team of about
4 30 NRC technical reviewers and contractors who are
5 conducting the safety evaluation at this time.

6 The safety review also includes plant
7 inspections. The inspections are conducted by a team
8 of inspectors from both headquarters and the NRC's
9 region one office in King of Prussia, Pennsylvania.

10 A representative from our inspection
11 program is here today; in fact, we have two. The
12 senior resident, Leonard Cline, Len if you will stand
13 up; and the resident inspector, Brian Fuller. Brian,
14 are you still here? Brian left? Okay.

15 The results of the inspections are
16 documented in separate inspection reports. The staff
17 documents the results of its review in a safety
18 evaluation report.

19 The report is then independently reviewed
20 by the advisory committee on reactor safeguards, or
21 ACRS.

22 The ACRS is a group of nationally
23 recognized and esteemed technical experts that serve
24 as a consulting body to the Commission. They review
25 each license renewal application, safety evaluation

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1 report, and other information relating to the safety
2 review.

3 They form their own conclusions and
4 recommendations on the requested action, which will be
5 license renewal, and report those conclusions and
6 recommendations directly to the Commission.

7 This slide illustrates how these various
8 activities make up the safety review process. I'd
9 like to point out that these hexagons on the slide,
10 like this one, these represent opportunities for
11 public participation.

12 The staff will present the results of its
13 safety review to the ACRS, and that presentation also
14 will be open to the public.

15 The second part of the review process
16 involves an environmental review. The environmental
17 review, which Leslie will discuss in more detail in a
18 few minutes, evaluates the impact of license renewal
19 on a number of areas including ecology, hydrology,
20 cultural resources, socioeconomic issues, and other
21 issues.

22 The environmental review is all scoping
23 activities and the development of a draft supplement
24 to the generic environmental impact statement for
25 license renewal of nuclear power plants, also referred

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1 to as the GEIS.

2 The draft environmental impact statement
3 has been previously - I'm sorry, has been published
4 for comments, and we are here today to briefly discuss
5 the results of our review and to receive your comments
6 on the draft.

7 In June of next year we will be issuing
8 the final version of this environmental impact
9 statement, which will document how the staff addressed
10 the comments that we receive here this evening at this
11 meeting, or in the future in written form.

12 So the final agency decision on whether or
13 not to issue a renewed operating license depends on
14 several inputs. Inspection reports, and a
15 confirmatory letter from the regional administration
16 in region one in this case, is represented here.

17 Conclusions and recommendations of the
18 ACRS which are documented in a letter to the
19 Commission here.

20 The safety evaluation report, which
21 documents the staff's review of the safety - the
22 staff's safety review, which is here.

23 And the final environmental impact
24 statement which documents the results of the
25 environmental review here.

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1 Again, these hexagons on the slide
2 indicate opportunities for public participation, like
3 this one.

4 The first opportunity was during the
5 scoping period, and the meeting back in September of
6 2004. Many of you may have attended that meeting.

7 This meeting on the draft environmental
8 impact statement this evening is another opportunity.

9 No one requested a hearing, so that is not
10 applicable here.

11 That concludes my presentation on the NRC
12 and overview of the license renewal process.

13 Now I'd like to turn things over to
14 Leslie, and she will discuss the environmental review
15 in more detail.

16 MR. CAMERON: And after Leslie is done,
17 we'll go out to see if any of you have any questions
18 on the process.

19 So Leslie.

20 MS. FIELDS: Good evening. My name is
21 Leslie Fields, and I am the environmental project
22 manager for the NRC staff, leading the Nine Mile Point
23 renewal for the environmental review.

24 My responsibility is to coordinate the
25 activities of the NRC staff and various environmental

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1 experts at national laboratories to develop the
2 environmental impact statement associated with license
3 renewal for Nine Mile Point.

4 The National Environmental Policy Act of
5 1969 requires that federal agencies follow a
6 systematic approach in evaluating potential
7 environmental impacts associated with certain actions
8 like license renewal.

9 We are required to consider the impacts of
10 the proposed actions, and also any mitigation for
11 those impacts, that we consider to be significant.

12 Alternatives to the proposed action,
13 including taking the no action alternative, on an
14 applicant's request, are also to be considered.

15 The National Environmental Policy Act and
16 our environmental impact statement are items used to
17 disclose the potential impacts found during the
18 staff's review.

19 They are specifically structured to
20 involve public participation, and this meeting
21 facilitates the public participation in our
22 environmental review.

23 So we are here today to collect public
24 comments on the draft environmental impact statement.
25 And these comments will be included in the final

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1 environmental impact statement.

2 The staff developed a generic
3 environmental impact statement or GEIS, that addressed
4 a number of issues that are common to all nuclear
5 power plants.

6 The staff is supplementing the GEIS with
7 a site-specific supplemental environmental impact
8 statement or SEIS that will address issues that are
9 specific to the Nine Mile Point plant.

10 The staff also evaluates the conclusion
11 reached in the GEIS to determine if they are any new
12 and significant information that would change any of
13 those conclusions.

14 Now I'd like to provide a little more
15 information about the GEIS. In the mid-1990s the NRC
16 was faced with the prospect of having to prepare
17 environmental impact statements for the majority of
18 operating nuclear plants in the United States.

19 The NRC decided to tackle this problem in
20 two ways. First, the NRC decided to evaluate the
21 impacts of all plants across the entire country to
22 determine if there were impacts that were common to
23 operating plants.

24 NRC looked at 92 separate impact areas and
25 found that for 69 of these issues, the impacts were

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1 the same for plants with similar features.

2 NRC called these category 1 issues, and
3 made the same or generic conclusions about their
4 impacts in the GEIS for license renewal.

5 The NRC published the GEIS in 1996.
6 Category one issues are shown in the first vertical
7 pass on the left of the diagram, are shown there.

8 Examples include discharge of sanitary
9 waste or bird collisions with cooling towers.

10 For the other 23 issues, 21 are referred
11 to as category 2. The NRC found that the impacts were
12 not the same at all sites, and therefore, a site-
13 specific analysis was needed, such as the review of
14 threatening and endangered species.

15 This is shown in the center.

16 In addition two issues are referred to as
17 not categorized, and therefore a site specific
18 analysis is also needed. And these are environmental
19 justice and chronic effects of an electromagnetic
20 field.

21 Our draft is a supplement to the GEIS. As
22 each plant comes in for license renewal, we publish a
23 SEIS. The Nine Mile Point draft SEIS is what you have
24 before you today.

25 This is available in the back of the room,

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1 as Rani mentioned.

2 The NRC did not rule out the possibility
3 that their generic conclusions may not apply to any
4 specific plant in all cases. If new and significant
5 information is found that contradicts the generic
6 conclusions in the GEIS, then the staff will perform
7 a site specific analysis on that issue.

8 This is shown in the vertical path at the
9 right of the diagram.

10 As you can see on this slide, our decision
11 standard for the environmental review is shown.
12 Simply put, is license renewal acceptable from an
13 environmental standpoint?

14 This slide shows important milestone dates
15 for the environmental review process. The highlighted
16 dates indicate opportunities for public involvement in
17 the environmental review.

18 We received Nine Mile Point's application
19 requesting the license renewal of Nine Mile Point on
20 May 27th, 2004.

21 On August 9th, 2004, we issued a Federal
22 Register Notice of Intent to conduct scoping and
23 prepare an environmental impact statement.

24 A meeting was held on September 22nd,
25 2004, as part of the scoping process. Many of you may

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1 have attended that meeting and provided comments to
2 us. The comments that were given at the scoping
3 meeting and that are in scope of this review are in
4 Appendix A of the draft SEIS.

5 The scoping period ended on November 8th,
6 2004. The scoping summary report was issued on
7 January 5th, 2005, addressing all the comments that we
8 received from all sources during the scoping process.

9 I have copies of the scoping summary
10 report in the back of the room.

11 The draft SEIS was published on September
12 29th, 2005, also known as Supplement 24 for the Nine
13 Mile Point units one and two.

14 And we are currently accepting public
15 comments on the draft until December 22nd, 2005.

16 Today's meeting is being transcribed, and
17 comments provided here carry the same weight as
18 written comments submitted to the NRC.

19 Once the comment period closes we will
20 develop the final SEIS, which we will expect to
21 publish in June of 2006.

22 Now I would like to turn things over to
23 Bruce to discuss Lawrence Livermore National
24 Laboratory's role in our environmental review.

25 MR. CAMERON: Okay, thanks, Leslie.

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1 Before we go to the substance of the draft
2 environmental impact statement, does anybody have any
3 questions about the license renewal process or our
4 environmental impact review process before we go on to
5 the substance? And we can come back to that issue too
6 if something occurs to you later on.

7 Okay, well let's go to the substance of
8 the environmental impact statement. Bruce McDowell.

9 MR. McDOWELL: Thank you, Chip, and good
10 evening.

11 As Chip said, I work for the University of
12 California at the Lawrence Livermore National
13 Laboratory. The NRC contracted with us to provide the
14 expertise necessary to evaluate the impacts of license
15 renewal at Nine Mile Point.

16 My team consists of nine members from the
17 Lawrence Livermore National Laboratory, and the
18 Argonne National Laboratory in Illinois.

19 The expertise we provide for the Nine Mile
20 Point license renewal and the alternatives are shown
21 on this slide. Atmospheric science, socioeconomics
22 and environmental justice, archeology and historical
23 resources, land use, terrestrial ecology, radiation
24 protection, nuclear safety, regulatory compliance,
25 aquatic ecology and hydrology.

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1 For each environmental issue an impact
2 level is assigned. For a small impact the effect is
3 not detectible or too small to destabilize or
4 noticeably alter any important attribute of a
5 resource.

6 For a moderate impact the effect is
7 sufficient to alter noticeably but not destabilize
8 important attributes of a resource.

9 And finally for an impact to be considered
10 large, the effect must be clearly noticeable and
11 sufficient to destabilize important attributes of a
12 resource.

13 Now, I'm going to use the fishery in Lake
14 Ontario to illustrate how we use these three criteria.

15 The operation of the Nine Mile Plant may
16 cause the loss of adult and juvenile fish at the
17 intake structure. If the lost of fish is so small
18 that it cannot be detected in relation to the total
19 population in Lake Ontario, the impact would be small.

20 If losses caused moderate population -
21 cause the population to decline and then stabilize at
22 a lower level, the impact would be moderate.

23 If losses at the intake caused the fish
24 population to decline to the point where it cannot be
25 stabilized and continues to decline, then the impact

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1 would be considered large.

2 When my team evaluated the impacts from
3 continued operation at Nine Mile Point, we considered
4 the information from a very wide variety of sources.

5 We considered what the licensee had to say
6 in their environmental report. We conducted a site
7 audit during which we toured the site, interviewed
8 plant personnel, and reviewed documentation of the
9 plant operations.

10 We also talked to federal, state and local
11 officials, as well as local service agencies.

12 And lastly we considered all of the
13 comments received from the public during the scoping
14 period. Comments within the scope of our review are
15 listed in Appendix A along with NRC's responses.

16 This body of information is the basis for
17 the analysis and the preliminary conclusions in this
18 Nine Mile Point supplement.

19 The central analysis in the Nine Mile
20 Point supplement are presented in chapters 2, 4, 5 and
21 8. In Chapter 2, we discuss the plant, its operation,
22 and the environment around the plant.

23 In Chapter 4 we looked at the
24 environmental impacts of routine operations during the
25 20-year license renewal term. The team looked at

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1 issues relating to the cooling system, transmission
2 lines, radiological impact, socioeconomic impact,
3 groundwater use and quality, and threatened and
4 endangered species.

5 Chapter 5 contains the assessment of
6 accidents. And at this point I'd like to make a
7 distinction. Environmental impacts on the routine
8 day-to-day operation of the Nine Mile Point plant for
9 another 20 years are considered separately from the
10 impact that could result from potential accidents
11 during the license renewal term.

12 I will discuss impacts from the routine
13 operations, and Mr. Palla will discuss impacts from
14 accidents in the next presentation.

15 Chapter 8 describes the alternatives to
16 the proposed license renewal, and their environmental
17 impacts.

18 Each of these issue areas is discussed in
19 detail in the Nine Mile Point supplement. I'm going
20 to give you the highlights, but feel free to ask me
21 for any more details if you have any questions.

22 One of the issues we looked at closely was
23 the cooling system for Nine Mile Point plant. The
24 issues that the team looked at on a site specific
25 basis include water use conflicts, entrainment and

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1 impingement of fish and shellfish and heat shock.

2 We found that the potential impact in
3 these areas were small, and additional mitigation is
4 not warranted.

5 Now there are a number of category one
6 issues related to the cooling system. These includes
7 issues related to discharges of sanitary waste, minor
8 spills of chemicals, metals and chlorine.

9 Now recall that as a category one issue,
10 NRC has already determined that these impacts were
11 small. My team evaluated all information that we had
12 available to see if there was any information that was
13 both new and significant for these issues.

14 We did not find any, and therefore we
15 adopted the NRC's generic conclusion that the impact
16 from the cooling system was small.

17 Radiological impacts are a category one
18 issue, and the NRC has made a generic determination
19 that the impacts of radiological release during
20 nuclear plant operations during the 20-year license
21 renewal period are small. But because these releases
22 are a concern, I want to discuss them in some detail.

23 Nuclear power plants are designed to
24 release radiological effluents to the environment.
25 Nine Mile Point is no different from any other plant,

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1 and Nine Mile Point releases radiological effluents to
2 the environment.

3 During our site visit we looked at the
4 effluent release and monitoring program documentation.
5 We looked at how the gaseous and liquid effluents were
6 treated and released, as well as how solid wastes were
7 treated, packaged, and shipped.

8 We looked at how the applicant determines
9 and demonstrates that they are in compliance with the
10 regulations for release of radiological effluents.

11 We also looked at data from onsite and
12 near site locations that the applicant monitors for
13 airborne release and direct radiation, and other
14 monitoring stations beyond the site boundaries,
15 including locations where water, milk, fish and food
16 products are sampled.

17 We found that the maximum calculated doses
18 for a member of the public are well within the annual
19 limits.

20 There was a near unanimous consensus
21 within the scientific community that these limits are
22 protective of human health.

23 Since releases from the plant are not
24 expected to increase on a year to year basis during
25 the 20-year license renewal term, and since we found

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1 new and significant information related to this issue,
2 we adopted the generic conclusion that the
3 radiological impact on human health and the
4 environment is small.

5 U.S. Fish & Wildlife Service determined
6 that there were three terrestrial federally listed or
7 proposed as threatened or endangered species that have
8 the potential to occur at Nine Mile Point or along its
9 transmission lines.

10 These are the Indiana bat, and transient
11 bald eagle and piping plover individuals.

12 The Indiana bat could occur in the
13 counties where the plant and the transmission lines
14 are located. But since the licensee does not plan any
15 refurbishment or construction as part of license
16 renewal, the natural area where this species would be
17 found would not be disturbed.

18 This would also be true for federally
19 listed plant species, the Harts-tongue fern, and the
20 small whorled pogonia.

21 During winter migration bald eagles often
22 use desert open water areas caused by the plant's
23 thermal discharges. Since these areas provide
24 foraging areas where, when other water bodies are
25 frozen, the plant's operation can be considered

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1 beneficial to eagles.

2 Transient piping plover individuals may
3 also be found along the Lake Ontario shorelines.

4 U.S. Fish & Wildlife Service determined
5 that there was no need for biological assessment or
6 further consultation under Section 7 of the Endangered
7 Species Act.

8 Based on this, the staff's preliminary
9 determination is that the impact of operation Nine
10 Mile Point, during the license renewal period, on
11 threatened or endangered species, would be small.

12 The last issue I'd like to talk about from
13 Chapter 4 is cumulative impact. These are impacts
14 that are minor when considered individually, but
15 significant, when considered with other past, present
16 or reasonably foreseeable future actions, regardless
17 of what agency or person undertakes the other actions.

18 The staff considered cumulative impacts
19 resulting from the operation of the cooling water
20 system; the operation of the transmission lines;
21 releases of radiation and radiological material;
22 sociological impact; groundwater use and quality
23 impacts; and threatened and endangered species
24 impacts.

25 These impacts were evaluated to the end of

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1 the 20-year license renewal term, and I'd like to note
2 that the geographical boundary of the analysis was
3 dependent on the resource.

4 For instance, the area analyzed for
5 transmission lines was different than the area
6 analyzed for the cooling water system.

7 Our preliminary determination is that any
8 cumulative impact resulting from the operation of the
9 Nine Mile Point plant during the license renewal
10 period would be small.

11 The team also looked at the uranium fuel
12 cycle and solid waste management in decommissioning.
13 All issues for the uranium fuel cycle and solid waste
14 management, as well as decommissioning, are considered
15 category one. For these issues no new significant
16 information was identified, and therefore, we adopted
17 the conclusions of the GEIS.

18 In 2003 Nine Mile Point generated about
19 12.8 billion kilowatt hours of electricity. My team
20 also evaluated the potential environmental impacts
21 associated with the Nine Mile Point plant not
22 continuing operation, and replacing this generation
23 with alternative power sources.

24 The team looked at the no action
25 alternative; new generation from coal-fired, gas-

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1 fired, new nuclear, purchased power, alternative
2 technologies such as wind, solar and hydro, and then
3 a combination of alternatives.

4 For each alternative, we looked at the
5 same types of issues, for example, water use, land
6 use, ecology and socioeconomics, that we looked at for
7 the operation of the Nine Mile Point plant during the
8 license renewal term.

9 For two alternatives, solar and wind, I'd
10 like to describe the scale of the alternatives that we
11 considered, because scale is important in
12 understanding our conclusion.

13 First solar: Based on the average solar
14 energy available in New York, and the current
15 conversion efficiencies of solar cells, these cells
16 would produce about 100 kilowatt hours per square
17 meter per year. As such about 125 million square
18 meters, or about 78 square miles, of cells would be
19 required to replace the generation from the Nine Mile
20 Point plant.

21 Regarding wind power, wind turbines have
22 capacity factors of between 25 and 35 percent. As
23 such as least 5,000 megawatts of wind power would have
24 to be developed to replace Nine Mile Point, 1,759
25 megawatts.

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1 To put this into context, in 2002 the
2 total wind power capacity in the United States was
3 4,500 megawatts. In other words the total wind power
4 in the United States would have to double from the
5 2002 amount to replace the generation from Nine Mile
6 Point.

7 Due to the scale of the reasonable
8 alternatives, the team's preliminary conclusion is
9 that their environmental effects, at least in some
10 impact categories, reach moderate or large
11 significance.

12 For the 69 category one issues presented
13 in the generic EIS, that related to Nine Mile Point,
14 we found no information that was both new and
15 significant. There we have preliminarily adopted the
16 conclusion that the impact of these issues is small.

17 My team analyzed the remaining category
18 two issues in the supplement, and found that the
19 environmental effects resulting from those issues was
20 also small.

21 During our review, my team found no new
22 issues that were not already known, and lastly found
23 that the environmental effect of alternatives, at
24 least in some impact categories, reach moderate or
25 large significance.

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1 I'd like to turn it back to Chip.

2 MR. CAMERON: Okay, thanks Bruce. And we
3 have one other part of the environmental draft and
4 environmental impact statement to go over with you on
5 severe accidents.

6 But before we go there, are there
7 questions on the assessments? And if you could just
8 introduce yourself to us.

9 MS. CLARK: My name is Linda Bond-Clark.
10 I'm a local resident. I have a question. Your
11 maximum dose to the public, how is it calculated? And
12 could you tell me, what you took in for mileage around
13 for the nuclear plant, the age and health of the
14 people that you inspected, to figure maximum dose?
15 How was that calculated?

16 MR. McDOWELL: The basic assumptions are
17 what we consider to be worst case assumptions, that
18 the person lives very close to the plant

19 MS. CLARK: Could you define very close,
20 because I don't know what very close means.

21 MR. CAMERON: Okay define very close for
22 the transcript.

23 MR. McDOWELL: At the site boundary.

24 MR. CAMERON: And the site boundary is
25 considered where?

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1 MR. McDOWELL: The site boundary, the
2 fence line around the plant.

3 MR. CAMERON: Okay, and the other question
4 had to do with - or the other part of the question I
5 think had to do with age, health, gender, which gets
6 into how our regulations to protect people from
7 radiation are formulated.

8 And maybe, can we go to Rich Emch to have
9 Rich talk about how differences in age, gender,
10 infants, et al, all of that are factored into our Part
11 20 regulations?

12 MR. McDOWELL: Before you go there, I just
13 want to say a couple of more things about how we do
14 this one calculation.

15 We assume that the person that - we're
16 assuming in our worst case assumption that that person
17 lives at the site boundary; that person spends most of
18 his time at the site boundary; he eats home grown
19 vegetables that he grows at the site boundary; uptake
20 is from any radiation that would be released could be
21 ingested, could be inhaled, or there could be dermal
22 exposure.

23 And so there is a variety of ways that he
24 could actually be exposed, and we consider that all of
25 them happen, and all of them happen very closely to

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1 the plant. And so most of this person's life is spent
2 at that site boundary.

3 MR. CAMERON: For purposes of the
4 analysis?

5 MR. McDOWELL: For purposes of the
6 analysis.

7 MR. CAMERON: Thanks very much, Bruce.
8 And let's go to Rich, and then we'll go back to Linda
9 to see if there are other questions on that.

10 MR. EMCH: Okay, trying to remember all
11 the various aspects that you asked. For example Bruce
12 has already talked about that there are several
13 different pathways that are evaluated. Ingestion of
14 agricultural products, milk, vegetables, nearest
15 residents. We look at ingestion of fish, shoreline
16 activity, recreation, exposure to the radiation plume
17 itself.

18 As far as age, I believe that was one of
19 the ones you mentioned, there are dose factors, and
20 usage factors, meaning, we think of that as how much
21 of this food stuff does an infant consume, does a
22 child consume, and does an adult consume, and there
23 are different dose factors for different age groups.
24 And all those are checked to see what the worst case,
25 what the highest dose would be for the age of the

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1 individual. So that's part of the calculations.

2 Were there other questions?

3 MR. CAMERON: Let me check back. Is there
4 other things you need to know about this, Linda?

5 MS. CLARK: Well, I'll assume that,
6 because you were referring to he, he, he, he, so I'm
7 assuming that you are referring to probably an adult
8 male; you are not referring to infants. I'm assuming
9 that, because I'm not hearing you say that it would be
10 specifically in infant living at the boundary.

11 MR. CAMERON: Okay. Does this go to how
12 the Part 20 dose is calculated?

13 MR. EMCH: Actually, just a moment ago, I
14 said we do look at infants, teens, children, adults,
15 women, men, the whole gamut is included in those
16 calculations. And what we do is, we look for the
17 worst case calculation, and what Bruce is talking to
18 you about is the worst case calculation, the worst
19 case individual, the highest - the individual who
20 would receive the highest dose.

21 MR. CAMERON: It's not necessarily the
22 adult male --

23 MR. EMCH: Well, we don't usually go into
24 a lot of discussion about which one it happened to be.
25 It's the worst case individual.

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1 To help to kind of tie the ends on this a
2 little bit, that worst case individual, the dose is
3 well below one millirem per year, which is - you can
4 compare that to the regulations 40 CFR 190, the EPA
5 regulation is 25 millirem per year from the entire
6 fuel cycle. Again, we're talking less than one
7 millirem per year.

8 Natural background - that's the dose that
9 you and I receive by living on this planet and getting
10 dental X-rays and things like that - that's in the
11 range of 360 millirem per year. Again, compare that
12 to the one millirem per year from the effluents from
13 this plant.

14 MR. CAMERON: And is that all set forth in
15 the draft environmental impact statement, Bruce, so
16 that if Linda wants to look at those calculations, she
17 can look at a place in the draft environmental impact
18 statement and see how that was done?

19 MR. McDOWELL: We have the numbers in
20 there, yes.

21 MR. CAMERON: All right. Linda, do you
22 have anything else on this right now?

23 MS. CLARK: One other question. You made
24 the statement that the emissions from the plant aren't
25 expected to increase. What is that based on?

1 MR. McDOWELL: As far as I know there is
2 no planned uprates for the plant, and so the plant
3 would continue at its same level of operation.

4 MR. CAMERON: Anyone want to add anything
5 to Bruce's answer on that? Rich?

6 MR. EMCH: We use as the basis, basically
7 we look at what the releases from the plant have been
8 over the last several years, and we look to see if
9 there is anything that is expected to happen at this
10 plant that would make the releases any higher. And
11 Bruce's statement is, we don't see anything that is
12 going to make it any worse or make it higher.

13 So we use the example of what they've
14 released over the last few years as the best example,
15 best way to judge what's going to be released during
16 the 20 years of additional operation.

17 MR. CAMERON: And are these releases all
18 monitored? And is that information available to the
19 public if they want to see it? Rich?

20 MR. EMCH: Yes, the releases are all
21 monitored. Each year the licensee publishes a report,
22 which is publicly available - there are two reports,
23 actually, one of them is the annual effluent release
24 report, and the other one is the annual environmental
25 monitoring report.

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1 That report basically summarizes the
2 information. In addition to effluent monitoring, the
3 plant carries out a program of environmental
4 monitoring. They take milk samples, fish samples, air
5 samples, and evaluate them to make sure that there is
6 nothing unusual, that the levels that are being
7 released are what they expect.

8 So that is what's shown in that
9 environmental radiological monitoring report each
10 year.

11 MR. McDOWELL: And the trends have been
12 going down over the last year or so. We would expect
13 them to continue to decline, but we have assumed for
14 the purposes of our analysis that they would remain
15 level; that they would remain level during a license
16 renewal period.

17 MR. CAMERON: Okay, and if Linda is still
18 here after the meeting, Rich could you - okay, anybody
19 else, questions about the findings in the draft
20 environmental impact statement at this point?

21 Hi, how are you, and please introduce
22 yourself.

23 MR. DELLWO: Tom Dellwo. So I'm looking
24 at the drafts right now. Actually had a chance to
25 read some of it, as much as I could.

1 Under the nuclear environmental impacts of
2 no action - the no action alternatives, so I'm
3 assuming - correct me if I'm wrong - but that means
4 that in the event you were to deny this, that would be
5 the no action, right? You wouldn't extend, is that
6 correct? Okay.

7 Under --

8 MR. McDOWELL: Yes. So it gets in the
9 transcript.

10 MR. DELLWO: So this is assuming - this is
11 effects on ecology assuming that you do not relicense
12 the plant. The environmental impacts to aquatic
13 species including transient, threatened and endangered
14 species associated with these changes are generally
15 positive.

16 So would that mean that the effects now
17 are negative? The effects on the ecology of --

18 MR. McDOWELL: That was not a relative
19 statement, that is, positive compared to what is
20 happening now. If the plant --

21 MR. DELLWO: If the plant stopped doing
22 what it was doing, the effects would be positive;
23 that's what it says.

24 MR. McDOWELL: That's true. That is not
25 relative to what is happening now, though.

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1 MR. DELLWO: How so? How is it not?
2 Because if the idea is that the plant would stop,
3 would cease doing what it's doing right now, and the
4 effects would be positive, then obviously what's
5 happening now is negative.

6 MR. McDOWELL: No, what's happening now,
7 we have determined that the effects were small; we
8 didn't say that they were negative. We said that the
9 effects were small.

10 MR. DELLWO: Okay. I don't understand how
11 stopping what it's doing would be positive then?

12 MR. McDOWELL: Excuse me?

13 MR. DELLWO: I don't understand how
14 stopping what it's doing now would be positive if what
15 it's doing now isn't negative?

16 MR. MASNIK: This is Mike Masnik from the
17 NRC staff.

18 The staff acknowledges that the plant is
19 having some impact because it does kill some fish and
20 organisms through the operation of the plant.

21 But our analysis has demonstrated that
22 this impact is small; in other words, it's not
23 destabilizing; it's not detectable.

24 We recognize that --

25 MR. DELLWO: It's not detectable?

1 MR. MASNIK: It's not detectable in the
2 population. We can detect the fact that it's killing
3 fish, but the population of fish in the immediate
4 vicinity of the plant isn't being affected. At least
5 we can't detect that it's being affected.

6 So when you cease operations --

7 MR. DELLWO: You can or you can't detect
8 it?

9 MR. MASNIK: we cannot detect changes in
10 the population --

11 MR. DELLWO: Population, okay.

12 MR. MASNIK: -- of fishes in the area.

13 Okay, now if you permanently cease
14 operation, the plan stops. You've stopped pumping as
15 much water. You will still pump some water, but it's
16 a significant reduction, which means that you will be
17 killing considerably less fish because you are pumping
18 a very small amount of water. So in that case the
19 impact would be positive.

20 MR. DELLWO: Follow up question? You said
21 earlier, just a second ago, that the plant monitors
22 and gives you reports. That's correct?

23 Where are the monitors, and how many of
24 them are there? And all that good stuff? Monitors of
25 radiation.

1 MR. CAMERON: If we could just try to give
2 as comprehensive an answer to this as possible. I
3 think you just assume that the question is very
4 broadly based in terms of the monitoring issue.

5 All the types of different monitoring that
6 is going on, can we do that?

7 MR. EMCH: I'll try, Chip.

8 It is an extensive monitoring system.
9 Okay? There are - I don't know the exact number, but
10 from driving around, at least 30 what we call
11 thermoluminescent dosimeter locations. There's at
12 least five or six air monitoring locations.

13 We don't have an extensive discussion of
14 where they all are in the environmental statement.
15 However, there is a document called the offsite dose
16 calculation manual, which is sort of a bible of how
17 the plant does their environmental monitoring, their
18 effluent monitoring, and everything.

19 And that document is publicly available.
20 And we can help you find it if you want to see where
21 the monitoring locations are; they would be laid out
22 in that document.

23 MR. CAMERON: All right. Let me see if
24 there are other questions, and then we'll get back to
25 you? Anybody else? Let's go up here, and then we'll

1 come back to you Linda, okay?

2 Okay, if you could just introduce yourself
3 to us.

4 MS. HOBBS; My name is Katherine Hobbs.
5 Okay, my first question was related to the maximum
6 dose calculation. And I was wondering if that
7 calculation is based on actual field studies of the
8 human impact of actual people living on the boundary,
9 or if that is sort of more like a prediction?

10 MR. CAMERON: I think, Bruce, if you could
11 just --

12 MR. McDOWELL: Actually, Rich would be
13 better for this.

14 MR. CAMERON: You want to do that, Rich?
15 Okay.

16 MR. EMCH: Yes, I believe I understand.

17 What does happen, we've talked about - I
18 think we will get to the heart of your question - the
19 licensee monitors the amount of radioactive material
20 that is released from the plant.

21 The licensee also does sampling in the
22 environment to see how much radioactive material they
23 see in the environment, in the air and things like
24 that.

25 The calculations that Bruce was talking

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1 about earlier of the doses to humans is based on the
2 effluent monitoring data that releases from the plant.
3 And they say how much - you know, we know where the
4 wind goes, we know where the water goes - what would
5 be the doses to these people who might be exposed to
6 this?

7 That's those calculations, those are the
8 ones that come up to less than a millirem per year.

9 I think that what you are asking about is,
10 does anybody go door to door and do blood studies and
11 things like that, and the answer to that is no, we do
12 not.

13 Now let me go on a little bit further,
14 however. At one millirem per year, the NRC uses what
15 we call the linear non-threshold theory, which simply
16 put means that there is some risk of damage, health
17 risk to a human, from any amount of radioactive
18 exposure. That's what it means.

19 However, at the levels that we're talking
20 about, the less than one millirem per year, the
21 likelihood of any kind of risk is extremely small, and
22 in fact, all the various health studies, and all the
23 calculations and things that have been done by
24 international groups have never seen any kind of
25 damage down at that level.

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1 The levels that they see the damage is,
2 about the bottom of the damage is -- I said one
3 millirem per year. I gave the example of 25 is the
4 standard, and I gave 360 as the amount that is
5 received just from living on planet Earth.

6 The health studies by the international
7 groups, national groups, those are up around 10,000
8 millirem per year is where they start to see some
9 damage.

10 The calculations are based on data from
11 things like Hiroshima, Nagasaki, that sort of thing.

12 MR. CAMERON: Okay, before we go back to
13 Linda, and then back over here, do you have anything
14 else you want to ask?

15 MS. HOBBS: Yes. Well, I actually have a
16 lot of questions.

17 But so how do you determine what is an
18 acceptable level of risk?

19 MR. CAMERON: I think maybe the question
20 goes to, how did the NRC set the standards in Part 20
21 as to what is an acceptable risk?

22 MS. HOBBS: And actually I was wondering
23 if the public was involved in that determination at
24 all?

25 MR. CAMERON: I think that it was a

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1 rulemaking, so you can talk about how the public was
2 involved in that, Rich?

3 MR. EMCH: As Chip pointed out, the Part
4 20, the Appendix I to Part 50, 10 CFR Part 50, which
5 is the regulation that applies specifically to a
6 reactor, nuclear power reactors. There is also the
7 EPA, Environmental Protection Agency regulations, 40
8 CFR 190 which limits the amount of exposure to any
9 member of the public to 25 millirem per year from the
10 entire fuel cycle - that's the reactors, the
11 enrichment plant, that's everything, transportation,
12 everything.

13 Now as to how did they decide that that is
14 a safe level, the 25 millirem per year or whatever,
15 that was based on extensive studies, extensive
16 discussions and input from international groups, the
17 International Commission on Radiation Protection, the
18 National Council on Radiation Protection and
19 Measurements, a wide variety. And there are a number
20 of documents that have been published by these
21 international groups.

22 And basically, like I said before, there
23 has been no damage, no health risk, no health impacts,
24 identified, specifically identified, below 10,000
25 millirems. So by setting the levels down at at the 25

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1 rem level, and in fact Appendix I is even lower than
2 that; 25 millirem per year level, and in fact,
3 Appendix I which specifically applies to nuclear power
4 reactors is even below that.

5 The belief of the Nuclear Regulatory
6 Commission and the international bodies, the national
7 bodies, is that those levels are safe.

8 Now as far as public input, as Chip
9 mentioned, all those regulations would require public
10 input. They would be published for public comment,
11 just pretty much the same way we're doing with this
12 draft document here.

13 Most of those regulations - I wasn't here
14 for some of them, so I can't tell you exactly what,
15 but they are as constant - there are studies that are
16 constantly ongoing to evaluate whether those are still
17 appropriate.

18 In fact, just a few months ago the draft
19 of something called BEIR 7, Biological Effects of
20 Ionizing Radiation, which was put out by an
21 international panel, reconfirmed the linear non-
22 threshold theory, and reconfirmed the level of
23 expected risk from radiation exposure that we've been
24 using for doing estimates for many years.

25 I'd be happy to spend more time with you.

1 I can go more directly to some of your questions
2 afterwards.

3 MR. CAMERON: Did we do a set of questions
4 on the BEIR study that Rich mentioned? There is some
5 handouts over here on radiation that help explain some
6 of this.

7 And was it Katherine? Katherine, we're
8 going to go back to Linda, and then it's Tom, right?
9 We'll go over here. Then we'll see where we are, and
10 maybe get Bob Palla on for his presentation, and then
11 go back out to you for questions.

12 Linda.

13 MS. CLARK: Yes, I've got a couple of
14 questions here again.

15 How much radiation, radionuclides in the
16 amount of curies, have been released from the plant
17 since its first set operation in 1969? Total curies,
18 effluents, total?

19 MR. CAMERON: And that may be - I'm not
20 sure we have that. We could do a calculation on that,
21 and get that number for you. I'm not sure that
22 anybody knows offhand. Rich?

23 MR. EMCH: I don't have that number at my
24 fingertips. We could find it. We could go to the
25 reports from the plant for all those years and add it

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1 all up. I don't know, were you at the scoping meeting
2 when we held it before? There was an issue that was
3 brought up during the scoping meeting, I think, just
4 as an example, a gentleman made an example about 3.7
5 million curies of radioactive materials in the early
6 years of the plant, and we went back and confirmed
7 that that was indeed the case, between 1971 and 1976,
8 and shortly - right after that is when the plant
9 installed what we call an augmented off-gas system
10 which drastically reduced the amount of radioactive
11 materials.

12 Actually the draft environmental document
13 that we have over there has a table that talks about
14 what the releases were. I think in 2004 - 2003 or
15 2004, and the releases from the plant on an annual
16 basis now, gaseous releases, are on the order of 100
17 curies per year from each reactor.

18 And again, as I said, that results in an
19 offsite dose of less than one millirem per year.

20 MR. CAMERON: Okay. Another question,
21 Linda? Oh, Bruce, did you want to say something?

22 MR. McDOWELL: Yes, those tables are on
23 page 213 and 215.

24 MR. CAMERON: Okay. Go ahead.

25 MS. CLARK: Question for you. The fence

1 at the site boundary is relatively close to the plant,
2 and you've got the effluent - the discharge stacks are
3 probably average 200 feet in the air. What type of
4 meteorological data did you use to indicate that the
5 radionuclides must fall directly down on the fence
6 boundary and not be blown more by the prevailing wind?

7 MR. McDOWELL: Well, Rich can take a stab
8 at this too, but let me take a shot.

9 Generally, when the meteorology is such
10 that it does go straight down to the site boundary,
11 the closest site, that is going to be the most
12 concentrated. If it goes, I think like what you are
13 suggesting, over the top of that near site boundary
14 and farther downwind, it tends to be more dispersed.

15 And so the assumption that it goes
16 straight down and hits the near-site boundary would be
17 the worst case.

18 MR. CAMERON: Okay, thanks, Bruce. Rich.

19 MR. EMCH: Actually, as Bruce was just
20 explaining it, as you mentioned, because of the
21 stacks, under many conditions, the actual highest spot
22 may actually be some distance from the site boundary,
23 you're right. And those are included, that fact is
24 included in the models that they have in the off site
25 dose calculation manual.

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1 And the meteorology is based on the - they
2 have a large meteorological tower that they use to
3 monitor that condition all the time, and they use the
4 information from that to help them determine just how
5 far the wind is blowing, how fast it's blowing,
6 whether it's raining or not. That also affects where
7 the radionuclides come out. There is a concept called
8 rain out where particles will come to the ground
9 faster if it's raining.

10 And all this is included, you are right.
11 We usually speak of - and what Bruce was talking about
12 - we usually speak of the maximum exposed individual
13 being at the site boundary. Pretty much by the time
14 you get to the site boundary, a lot of the plume has
15 come to the ground.

16 But the reality is, we understand the fact
17 that there is an elevated release, and the
18 calculations include that. So when we say the maximum
19 exposed individual, that's also accounting for the
20 fact that it may not actually be at the site boundary
21 all the time, yes.

22 MR. CAMERON: Let's go over to Tom, right,
23 and then we'll go back up to Katherine, and then we're
24 going to go to Bob Palla for severe accident
25 presentation.

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1 Go ahead.

2 MR. DELLWO: Thanks. A couple of quick
3 questions. The capacity for electricity generation,
4 how much left over space is there in the lines that go
5 from here? In other words, are we at capacity right
6 now currently for this area, for the lines that go
7 from this area?

8 MR. McDOWELL: You are going to have to
9 talk to somebody else about that. My scope is looking
10 at the environmental impacts of the alternatives, and
11 the main action. So there may be somebody from the
12 plant or the NRC that knows that answer.

13 MR. CAMERON: Does anybody want to hazard
14 a rough statement on that? And maybe you want to tell
15 us where you're going with that, okay? Tell us what
16 the implications of that question are.

17 MR. DELLWO: The implications deal with
18 the EIS, because I guess what I'm getting at is, in
19 the EIS it looks at the possibilities of alternatives.
20 And I'm wondering if in those possibilities of
21 alternatives you took into account the likelihood - I
22 know in the EIS you said, you took into account the
23 likelihood of those things happening based on cost or
24 anything like that. But did you take into account the
25 likelihood of those things happening if there is no

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1 space for that energy to be brought down to wherever
2 it needs to go? What that taken into account?

3 So in other words, it's very unlikely that
4 some other type of energy like wind or solar or coal
5 or whatever would possibly be built here if they would
6 have to build a whole bunch of new generative power
7 lines to do that. So is that taken into account?

8 MR. CAMERON: Okay, I think we see what
9 the - so it's not just a question of how much more
10 capacity could through the lines. It's whether the
11 particular form of alternative source of electricity,
12 whether you use those same lines.

13 MR. McDOWELL: I think so. One of the
14 reasons why we considered the impacts of some of these
15 alternatives to be either moderate or large is because
16 of partially the possibility that we would have to
17 build new transmission lines.

18 So that is certainly a possibility. And
19 when you look at particularly wind projects, where
20 some of the best wind locations are located in remote
21 areas where you would have to build roads, or you
22 would have to build transmission lines, in some cases
23 the roads and the transmission lines are the main
24 impact of the project. So that is definitely included
25 in what we looked at in determining that some of these

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1 impacts of the alternatives could reach either
2 moderate or large scale.

3 MR. CAMERON: Okay, another question?

4 MR. DELLWO: So what you're saying is that
5 they took that into account, based on the fact that
6 they probably would have to build new lines, because
7 they are at capacity right now?

8 MR. McDOWELL: Not so much at capacity.
9 It's more the situation that some of the sites that
10 might be ideal for alternative technologies are not
11 right at the Nine Mile Point site.

12 If you were just going to replace it with
13 another plant at that site, since you are kind of
14 replacing in kind as far as generation is concerned on
15 the lines, then that would just replace it on the
16 lines also. So we didn't really consider that there
17 be new lines needed, or replacement plant at the Nine
18 Mile Point site.

19 MR. DELLWO: Two more questions, and then
20 I'll probably be one. In the environmental impact
21 statement, according to what it says, there's 69
22 issues that are seen as generic for all plants, and
23 that aren't really dealt with on a plant specific
24 base; is that correct?

25 MR. McDOWELL: Our job is to go in for

1 each plant and to verify that the assumptions that
2 were made to make that determination are still valid,
3 and that there is no new and significant information.

4 So it's not like we ignore those. We do
5 look and see if there is anything new and significant
6 at Nine Mile Point that would invalidate the
7 conclusion, the generic conclusions, that they came up
8 with in the GEIS.

9 MR. CAMERON: I'm glad you asked that,
10 just in terms of the number itself, how many category
11 one issues were there?

12 MR. McDOWELL: 69; there's 92 total.

13 MR. CAMERON: All right, and one more?

14 MR. DELLWO: Yes, if that's okay.

15 Okay, the - it refers to the staff over
16 and over again. And I know that they are - actually,
17 I couldn't - maybe it was just me, but I couldn't find
18 their backgrounds in here. Where they worked, were
19 they worked previously.

20 MR. McDOWELL: Their names are listed in
21 Appendix B. But their backgrounds are not
22 specifically included in the document.

23 MR. DELLWO: Do you have any of that
24 information? I'm assuming that this project was
25 funded by NRC.

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1 MR. McDOWELL: Yes. Well, yes.

2 MR. DELLWO: So the people who made this
3 were paid by NRC to do that?

4 MR. McDOWELL: Yes.

5 MR. DELLWO: I was just wondering if there
6 was any sort of background information you could give
7 me?

8 MR. McDOWELL: We've given that the NRC,
9 and that would be up to the NRC to decide whether that
10 would be made available.

11 MR. CAMERON: Let's hear from Leslie and
12 Rani on this.

13 Go ahead, Leslie.

14 MS. FIELDS: Appendix B does have the
15 expertise level of the person who participated in the
16 review, and normally it is reflective of their
17 particular expertise and professional backgrounds as
18 well.

19 MS. FRANOVICH: Tom, I think that you are
20 getting at is, what were the credentials of the
21 experts that were used to conduct the environmental
22 reviews?

23 MR. CAMERON: I think he may be thinking
24 about perhaps conflict of interest, and if you could
25 just talk about how we screen or contract

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1 organizations for conflict of interest, I think that
2 is what he wants to know.

3 MS. FRANOVICH: The teams usually are
4 comprised of those members of the NRC staff who are
5 credentialed experts in their areas of expertise.

6 And in the past we've used DOE labs,
7 national laboratories, who don't do work with nuclear
8 utilities, if that's your concern.

9 As Chip just mentioned, in order for the
10 NRC to contract a consultant or a team of experts, we
11 have to go through a rigorous process to verify that
12 they are not engaged with a nuclear utility because of
13 the conflict of interest.

14 MR. CAMERON: We have to get this on the
15 transcript. So Rani's comments, if they aren't
16 connected. And you questioned --

17 MR. DELLWO: They never were before in
18 their careers connected with a nuclear power plant or
19 this particular nuclear power plant?

20 MS. FRANOVICH: I don't know that we would
21 do that kind of a research on individuals. I think we
22 would look at the contractor themselves, like if we
23 went to a commercial contractor, the company, we would
24 see if the company has done work for the private
25 sector, for nuclear power in particular.

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1 But I don't know that we actually looked
2 to see if the individuals at any time in their career
3 did work for a utility.

4 MR. CAMERON: And it might be - Bruce, do
5 you want to add something?

6 MR. McDOWELL: We had a candidate from
7 Livermore that was going to be on the team that I had
8 for the Peach Bottom Power Plant, and he had worked
9 for a contractor that had not been actively involved
10 with Peach Bottom directly, but had been working on
11 Nine Mile, so there was a connection there. And NRC
12 did not choose to include him on our team.

13 MR. CAMERON: Okay, thank you, Bruce,
14 that's very helpful. And you know our conflict of
15 interest reviews and regulations are all public if you
16 need more information on that. I'm sure we can get
17 that for you.

18 And I'm going to go to Katherine to see if
19 she has any other questions, and then we're going to
20 go to Bob Palla's severe accident presentation, and
21 then come back to all of you for questions.

22 Katherine, do you have anything else?

23 MS. HOBBS: Yes. The first question was,
24 in regards to the radiological monitors that are - my
25 understanding was, that is carried out by the staff of

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1 the plant; is that correct? That the actual
2 monitoring and logging of the monitoring data takes
3 place by plant employees?

4 MR. CAMERON: Who does that? And is there
5 a related question, because we are going to go back to
6 Rich to answer this, and maybe he can answer the
7 second one.

8 MS. HOBBS: Okay, well I'm just wondering
9 if there is - what kind of oversight the NRC has of
10 that monitoring.

11 MR. CAMERON: All right, Rich Emch.

12 MR. EMCH: Yes. The licensee does all the
13 data recording, and evaluation, the counting of
14 samples and all that sort of stuff, although they are
15 overseen. That whole process is inspected by the
16 Nuclear Regulatory Commission.

17 We have experts in health physics who come
18 out from our regional offices and conduct inspections
19 of the process.

20 And in addition to that, the state of New
21 York does environmental monitoring as well, so that
22 they are able to look for themselves. That's another
23 source of the checks, so to speak, against what the
24 licensee is doing.

25 MS. FRANOVICH: Chip, if I can add one

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1 thing to this, and Rich, correct me if I'm wrong, when
2 licensees are required to submit information to the
3 NRC, there is a requirement under 10 CFR Part 50, it's
4 called 50.9, and it requires licensees to provide
5 complete and accurate information. And if they fail
6 to do that, then they're subject to enforcement
7 action.

8 MR. CAMERON: And Katherine, do you have
9 one more question before we move on?

10 MS. HOBBS: I just also in regards to the
11 environmental impacts for each of the categories that
12 you talked about, in addition to contractors, I'm
13 wondering if you'd consider having members of the
14 public participate in the process of determining what
15 the environmental impacts are, members of the public
16 to be included in that process.

17 MR. CAMERON: And maybe that has two
18 aspects of it. One aspect of that is, these types of
19 meetings, where we get questions and suggestions from
20 the public about, you really should look at this type
21 of environmental impact. And sometimes it's very
22 specific. It might be a specific type of organism
23 that we didn't know about. So that's one way that the
24 public is involved.

25 The other way was mentioned by Bruce on a

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1 slide of where we get information in terms of all the
2 different state and local government agencies that we
3 talk to gather information.

4 And Bruce, maybe you could just go into a
5 little more detail on who we talk to in terms of state
6 agencies, like department of health, whatever, so that
7 Katherine can get an idea of that.

8 MR. McDOWELL: Well, primarily what she
9 said though is true. The first meeting that we
10 conducted here last September was just for that
11 purpose; it was to find out what impacts the public
12 thinks are important. So we tried to get that.

13 And when we made our side audit during
14 that same time, last September, we not only met with
15 state and federal agencies, but we met with local
16 services agencies. We met with people from the city
17 and people from the county, and tried to get
18 information from the people here, not from people at
19 the state office, or from the U.S. Fish & Wildlife
20 Service, even though we did talk to them also about
21 what is going on here at the ground level.

22 And that's again why we are here tonight.
23 We are here tonight to see did we miss anything. Is
24 there anything that maybe we've come to wrong
25 conclusion about? Is there any more information that

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1 we should have that's pertinent?

2 And so this is really the process where
3 you would be involved.

4 MR. CAMERON: Okay, great, and I believe
5 that Rich Emch has given Katherine a list of the
6 agencies or whatever that we've talked to.

7 Do you want to add anything before we go
8 on? Go ahead.

9 MR. EMCH: I just gave her a copy of the
10 draft environmental impact statement and opened it to
11 Appendix D, which is the list of agencies that were
12 contacted.

13 MR. CAMERON: Okay, Katherine, that may
14 not be completely what you wanted to hear, but I think
15 it's sort of responsive to your question.

16 Did you want to know whether we had an
17 independent public advisory group or something like
18 that?

19 MS. HOBBS: Yes, I think that is what I
20 was wondering.

21 MR. CAMERON: And in some cases, the NRC
22 does have advisory groups that are part of the public
23 to advise us on particular issues, but usually when we
24 go to do the site specific analyses, we talk to the
25 public in situations like this, comments. We talk to

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1 the state agencies. But we usually don't have any
2 sort of an independent advisory commission, because
3 our job is to be the independent agency that looks at
4 these particular issues to make sure that the
5 environment and public health and safety is protected.

6 MR. CAMERON: Let's go to Bob Palla, severe
7 accidents. We'll come back to you for questions, and
8 you don't have to limit your questions to severe
9 accidents. You can ask other questions.

10 But at some point we'll need to go to the
11 public comment part of the meeting, and give you all
12 an opportunity to comment.

13 Bob Palla.

14 MR. PALLA: My name is Bob Palla. I'm
15 with the division of risk assessment at NRC, and I
16 will be discussing the environmental impacts of
17 postulated accidents.

18 These impacts are described in Section 5
19 of the generic environmental impact statement, or the
20 GEIS, as you've heard.

21 The GEIS evaluates two classes of
22 accidents: design-basis accidents; and severe
23 accidents.

24 Design basis accidents consist of a broad
25 spectrum of postulated accidents that both the

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1 licensee and the NRC staff evaluate to ensure that the
2 plant can respond to these accidents without risk to
3 the public.

4 The ability of the plant to respond to the
5 accidents has to be demonstrated before the plant is
6 granted a license. And since the licensee has to
7 demonstrate acceptable performance, for these design
8 basis accidents throughout the life of the plant, the
9 commission has determined that the environmental
10 impact of design basis accidents are of small
11 significance.

12 Neither the licensee nor the NRC is aware
13 of any new and significant information on the
14 capability of the Nine Mile plant to withstand design
15 basis accidents. Therefore the staff concludes that
16 there are no impacts related to design basis accidents
17 beyond those that are discussed in the GEIS.

18 Now severe accidents by definition are
19 more severe than the design basis accidents. These
20 accidents could result in substantial damage to the
21 reactor core.

22 The Commission found in the GEIS that the
23 risk of a severe accident is small for all plants.
24 And by this I mean the probabilistically weighted
25 consequence of these accidents.

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1 Nevertheless the Commission determined
2 that alternatives to mitigate severe accidents must be
3 considered for all plants that have not done so.

4 This same evaluation is a site specific
5 assessment, and is a category two issue, as explained
6 earlier.

7 The SAMA review for Nine Mile Point is
8 summarized in Section 5.2 of the GEIS supplement for
9 Nine Mile, and is described in more detail in Appendix
10 G of the supplement.

11 Now the purpose of performing a SAMA
12 evaluation is to ensure that plant changes with the
13 potential for improving severe accident performance
14 are identified and evaluated.

15 The scope of the potential improvements
16 that are considered include hardware modifications,
17 procedure changes, and training program enhancements,
18 basically, full spectrum of potential changes.

19 The scope of the SAMAs that are considered
20 include SAMAs that would prevent core damage as well
21 as SAMAs that would improve containment building
22 performance, given that a core damage event were to
23 occur.

24 The SAMA evaluation process consists of a
25 four-step process. The first step is to characterize

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1 overall plant risk and leading contributors to risk.
2 This typically involves the use, extensive use, of the
3 plant specific probabilistic risk assessment study,
4 which is also known as the PRA.

5 The PRA is a study that identifies the
6 different combinations of system failures and human
7 errors that would be required for an accident to
8 progress to either core damage or containment failure.

9 The second step of the evaluation is to
10 identify potential improvements that could further
11 reduce risk. The information from the PRA, such as
12 the dominant accident sequences, is used to help
13 identify plant improvements that would have the
14 greatest impact in reducing risk.

15 Improvements identified in other NRC and
16 industry studies as well as SAMA analyses that had
17 been performed for other plants that have requested
18 license renewal have also been considered.

19 The third step in evaluation is to
20 quantify the risk reduction potential and the
21 implementation costs for each improvement. The risk
22 reduction and implementation costs for a SAMA are
23 typically estimated using a bounding analysis.

24 The risk reduction is generally
25 overestimated by assuming that the plant improvement

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1 is completely effective at eliminating the accident
2 sequences that it is intended to address.

3 And the implementation costs are generally
4 underestimated by neglecting certain cost factors such
5 as maintenance costs and surveillance costs that are
6 associated with the improvement.

7 The risk reduction and costs estimates are
8 used in the final step to determine whether
9 implementation of any of the improvements can be
10 justified. Now in making this determination as to
11 whether an improvement is justified, we look at three
12 factors.

13 The first is whether the improvement is
14 cost beneficial. In other words is the estimated
15 benefit greater than the estimated implementation cost
16 for the SAMA?

17 The second factor is whether the
18 improvement provides a significant reduction in total
19 risk. For example does it eliminate a sequence or
20 contain a failure mode that contributes a large
21 fraction to plant risk?

22 The third factor is whether the risk
23 reduction is associated with aging effects during the
24 period of extended operation, in which case if it was
25 we would consider implementation as part of the

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1 license renewal process.

2 This slide summarizes the result of the
3 SAMA review. 220 candidate improvements were
4 considered for each Nine Mile Point unit. And these
5 were identified based on a review of the plant
6 specific PRA and the dominant risk contributors at
7 each unit, as well as SAMA analyses performed for
8 other plants.

9 The licensee reduced the number of
10 candidate SAMAs based on a multi-step screening
11 process. This screening resulted in retention of a
12 set of 13 SAMAs, for unit one, and 20 SAMAs for unit
13 two.

14 A more detailed assessment of the risk
15 reduction potential and implementation costs was then
16 performed for each of these remaining SAMAs. This is
17 described in detail in Appendix G of the GEIS
18 supplement.

19 The detailed cost-benefit analysis shows
20 that several SAMAs are potentially cost beneficial at
21 each unit, when evaluated individually in accordance
22 with NRC guidance for performing regulatory analyses.

23 Four of the SAMAs were cost beneficial at
24 unit one; 11 were cost beneficial at unit two.

25 Now it's important to note that some of

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1 these SAMAs address the same risk contributor but in
2 a different way. For example, one of the SAMAs
3 involves using a portable generator to maintain the DC
4 batteries charged, given a station blackout event was
5 to occur.

6 Several other SAMAs also address DC bus
7 failures and station blackout events. So in these
8 instances implementation of one of the SAMAs could
9 reduce the residual risk to a point that one or more
10 of the related SAMAs would no longer be cost
11 beneficial.

12 It's because of this interrelationship
13 between SAMAs that we would not expect that
14 implementation of all of the identified SAMAs would be
15 justified on a cost benefit basis. Rather,
16 implementation of a carefully selected subset of the
17 cost beneficial SAMAs could achieve most of the risk
18 reduction and would be more effective, cost effective,
19 than implementing all of the SAMAs.

20 To summarize, the results of the SAMA
21 evaluation indicate that several SAMAs are potentially
22 cost beneficial at Nine Mile Point. However, none of
23 the cost beneficial SAMAs are related to managing the
24 effects of plant aging during the period of extended
25 operations; therefore, the SAMAs are not required to

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1 be implemented as part of license renewal.

2 Notwithstanding this, the licensee has
3 committed to further evaluate the potentially cost
4 beneficial SAMAs as a current operating licensing
5 issue, and to consider implementation of the
6 potentially cost beneficial SAMAs as voluntary plant
7 enhancements.

8 Completion of these evaluations is being
9 tracked in the licensee's plant change tracking
10 system. And that concludes my summary.

11 So questions?

12 MR. CAMERON: Yes, questions on the severe
13 accident mitigation alternatives. Tom?

14 MR. DELLWO: Thanks.

15 So you are not going to make them do these
16 things that you have identified as possibly making the
17 plant safer, if I hear you correctly?

18 MR. PALLA: We're not requiring that as a
19 part of the license renewal process. These are being
20 --

21 MR. DELLWO: Just because they don't deal
22 with aging?

23 MR. PALLA: That is the primary purpose,
24 that's the reason.

25 MR. DELLWO: All right.

1 MR. CAMERON: Okay. I think we need to
2 take that a step further. Yes, sir, and please
3 introduce yourself.

4 MR. FALLON: I'm Mike Fallon. I'm with the
5 license renewal team and with the SAMA lead. Many of
6 these 15 identified potentially cost beneficial SAMAS
7 have been implemented at Nine Mile, and the ones that
8 involved actual plant - some of these are like
9 procedure changes, things like that have been
10 implemented.

11 Ones that involve actual modifications to
12 the plant are part of conceptual design packages that
13 are in the plant modification review process to
14 determine if in fact they are cost beneficial for
15 implementation.

16 MR. CAMERON: Okay, so certain things are
17 being done. And when he identified himself as part of
18 the license renewal team, part of the Nine Mile
19 license renewal team, not the NRC license renewal
20 team, just to get that clear.

21 Any other questions on severe accidents?
22 Yes, Katherine.

23 MS. HOBBS: This part of the presentation
24 was a lot like Greek for me, who is not learned in
25 this technical speak.

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1 And it might have been presented but I
2 didn't get it. So does the risk of an explosion or a
3 meltdown or a terrorist attack get included - is it
4 included in this assessment?

5 MR. PALLA: Well, what we do here is look
6 at the complete risk profile from the plant. Now it
7 typically doesn't involve explosions, because these
8 reactor designs are not like Chernobyl where you have
9 the potential, where the design itself has inherent
10 weaknesses that could lead to explosions.

11 But we look at core melt down events, TMI
12 type events, events that lead to core melt with intact
13 containments; core melt with failed containments. And
14 the PRAs tend to look only at things that go to core
15 melt, but most of the things that occur at a plant
16 don't go to core melt.

17 So we look at successes. We tend to focus
18 on those things that get you to core damage. And we
19 look at the full range of events that go to core
20 damage, including with and without effective
21 containments.

22 And we look at, and there are more details
23 in the appendix, it includes internally initiated
24 events, events that were initiated by internal fires
25 within the plan, seismic events.

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1 MR. CAMERON: And I guess that the one
2 issue we should be clear about for people is in terms
3 of this particular evaluation looks at, although it
4 looks at seismic, earthquakes, things like that,
5 sabotage is - I don't know, I'm just asking - sabotage
6 is dealt with under a different regime.

7 In other words Katherine mentioned
8 terrorism. So in other words, does a SAMA evaluation
9 take into account something that could happen because
10 of a terrorist attack?

11 MR. PALLA: It's a good question. We
12 actually are unable to quantify those types of
13 threats. And these are - that's my number one answer
14 is, it's not in the model. It's difficult if not
15 impossible to quantify the likelihood of such events
16 in the same way that we deal with all the other events
17 that we can conceive of.

18 Second way that I might answer that is to
19 say that these events are not really looked at part of
20 license renewal. These are events we're concerned
21 about today as part of the current operating license,
22 and there is a large number of activities that have
23 occurred since 9/11 and actually are continuing to
24 occur. And they range from - there were security
25 advisories, safeguard advisories. There were orders.

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1 There is a rulemaking in progress now on the design
2 basis threat, a new design basis threat. There are
3 vulnerability analyses that are ongoing, looking at
4 aircraft impacts on plants. And the ability of plants
5 to withstand that.

6 So these things are all being done. They
7 are being done as part of the current operating
8 license; they are not being done as part of the
9 license renewal activity.

10 MR. CAMERON: Bob, that is very helpful.
11 And I think, Katherine, you might have come in after
12 Rani Franovich talked about, mentioned the fact that
13 security - what we call security-related events are
14 not part of license renewal.

15 It doesn't mean that they are not being
16 taken care of or addressed by the NRC; it just means
17 they are not being addressed as part of license
18 renewal, because they are a thing that is happening
19 that has to be paid attention to everyday in the
20 operating life of a plant.

21 Rani, do you want to add anything to this
22 other than what Bob said? Okay. Good question.

23 MS. HOBBS: So the risk of that happening
24 let's say a meltdown happening is not then - the
25 environmental impact of that potential are not

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1 considered?

2 MR. PALLA: No, they are. In fact that's
3 the focus of - what we're looking at here is the
4 residual risk of the plant. You could build the
5 latest plant, advanced reactors. There is still a
6 possibility that some bizarre combination of failures
7 that could occur, that would lead to core damage.

8 What we do here is, we look at the risk
9 profile of the plant as it exists, we looked at both
10 units. These are two different reactor designs inside
11 two different containment types.

12 We looked at those risk profiles, and
13 looked at what was driving the risk. What are the
14 dominant sequences.

15 We looked, for each of these dominant
16 contributors, we looked - when I say, we looked, the
17 licensee in their environmental report describes a
18 very systematic analysis in which they looked at it -
19 we looked at their analysis to confirm that it was in
20 fact rigorous and systematic.

21 But we look at all of the different
22 contributors, and we look at ways that we could reduce
23 those contributors further.

24 And we try here, the purpose of this whole
25 SAMA review is to identify ways that the risk could be

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1 further reduced, that are cost beneficial and would
2 give you some substantial reduction in risk.

3 So that is the whole focus of what we are
4 doing, and we do look at - obviously we are looking at
5 the core melt accidents. That is where most of the
6 risk is coming from.

7 MR. CAMERON: Bob, I think one of the
8 things that is sometimes confusing for people with
9 this, and you just touched on it there when you said
10 further reduce the risk, these things are all over and
11 above what is needed to make the plant safe. These
12 are things that might be cost beneficial to do that is
13 just going to further reduce any risk.

14 And you can explain this better than I am,
15 but you know where I'm going.

16 MR. PALLA: Well, I can make it as
17 complicated as you like, Chip.

18 MR. CAMERON: I know you could. Could you
19 make it simple?

20 MR. PALLA: That's harder. The plant has
21 a certain level of risk, and although we do not
22 regulate the risk, the Commission has safety goals for
23 plants. And the level of risk at these plants meets
24 the safety goals.

25 Now just to give you a rough feeling for

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1 how are these safety goals expressed, and I won't go
2 through the numerics of how one demonstrates that you
3 meet it, but basically the safety goal says that the
4 risk to the population living in the vicinity of the
5 plant, the risk to that population from the reactor
6 should be less than one-tenth of one percent of the
7 risk that the public has from other like for example
8 for early fatalities. It should be less than one-
9 tenth of one percent of the risk that the public has
10 from all other cancer fatalities.

11 And these goals exist for early
12 fatalities, and they exist for late and cancer
13 fatalities. But a tenth of a percent is generally
14 thought - you want to be less than that in order to
15 meet the safety goals, and the plants meet these
16 safety goals.

17 We don't regulate them to it. I mean the
18 regulations are more deterministic; they are not
19 probabilistic. We don't regulate to certain levels of
20 risk. In fact, when the regulations were developed,
21 these kind of risk assessment techniques were
22 nonexistent or in their infancy, really.

23 MR. CAMERON: Okay, so the plants all meet
24 the safety goals, and then we might --

25 MR. PALLA: And then what this does is

1 just to see, is there a way to further reduce it?
2 It's safe enough, okay, but is there something that
3 can be done that makes sense to do and it's
4 reasonable, it doesn't adversely impact in terms of
5 cost and it's effective, it gives substantial risk
6 reduction.

7 MR. CAMERON: Okay, thank you, Bob.
8 That's great.

9 We are going to go to the public comment
10 part of the meeting. But are there any questions.

11 Linda, you look a little puzzled back
12 there. Do you have another question for us before we
13 go on?

14 MS. HOBBS: Number one, the whole notion
15 of cost versus benefit has always I guess been a thorn
16 in my side. By doing the math here, it's my
17 understanding if you take one-tenth of one percent,
18 you are really talking about one thousandth.

19 So am I to assume that it is okay to take
20 the risk as long as only one in every one thousand
21 persons die? I mean that's the math.

22 And I guess also, we speak of how much
23 does it cost to keep the public safe. And as long as
24 it doesn't cost too much we can keep some of them
25 safe.

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1 I mean this whole risk versus benefit is -
2 I remember this from way back, made comments on that
3 later.

4 MR. PALLA: Did you want me to sit back
5 down again?

6 MR. CAMERON: Well, I think you just need
7 to emphasize the fact that our regulations in terms of
8 safety are not based on cost considerations.

9 MR. PALLA: No, if it was a matter of
10 meeting the regulation, there are no cost
11 considerations. The licensees are required to comply
12 with the regulations.

13 You don't bring a cost - you don't do
14 cost-benefit analyses on compliance issues. What you
15 do, though, if you - and as you can imagine, you can
16 always come up with additional improvements to make a
17 plant even safer.

18 And what this cost benefit is, it's part
19 of the back fit. We have a back fit rule that
20 basically says, if it's a compliance issue, you have
21 to comply, but if it is something that is viewed as an
22 enhancement, it's not an adequate protection issue.
23 It's not a question that the plant has inadequate
24 protection for the public.

25 Let's say it already has adequate

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1 protection, and you are looking at a further
2 enhancement. There is a back fit rule, 50.109 that
3 describes that is necessary to demonstrate in order to
4 require a licensee to make further improvements.

5 And that is where you get into cost
6 benefits. And it is basically a check on the ability
7 of the staff to require a lot of things that maybe are
8 expensive and don't provide the commensurate benefit
9 with it really.

10 And what we try to do in SAMA is, we're
11 focused on where the risk is coming from, and we're
12 trying to find the least expensive ways to fix it,
13 because those are likely to be the most cost
14 effective.

15 But you have to balance the costs and the
16 benefits when you are trying to make additional
17 requirements.

18 This isn't a matter of trying to make the
19 plant safe enough that it's in an unsafe state. It's
20 already judged to be safe enough. It's judged that
21 there is adequate protection at this point. And we're
22 just trying to see if we can justify further
23 improvements.

24 MR. CAMERON: Okay. Let's go on to -
25 pardon me? Oh, I guess that Rich is pointing out that

1 the one out of a thousand reference that Linda made -
2 why don't you try to do that. Well, he may be better
3 than you at explaining it, but I'm not sure that he
4 knows what you are talking about.

5 Do you know what he's talking about?

6 MR. PALLA: Well, in case I was sloppy in
7 how I tried to explain it, there is a certain level of
8 risk that you can calculate in the general population
9 of the United States. So many cancer deaths per year
10 for a certain - over a certain population, and so many
11 accidental deaths over the population in a year. And
12 that is the background level of risk if you will. So
13 that is the risk that exists, in general.

14 And when what the policy statement said
15 is, if you took the additional risk represented by the
16 plant should be less than one-tenth of one percent of
17 that. That's what I was trying to say.

18 MR. CAMERON: And maybe we can talk to
19 Linda to make sure that that is clear.

20 Okay, we're going to go to the public
21 comment part of the meeting. But I want to make sure
22 that Rich points out something about the site
23 boundary, and Rani wants to say something.

24 Go ahead, Rani.

25 MS. FRANOVICH: Actually, I'm going to

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1 talk about what Rich brought to my attention.

2 There was a question about where the staff
3 assumed the maximum radiological impact to a human
4 being would be, and the answer was at the site
5 boundary. And the question was, well, where is that
6 in relation to the plant. And the answer was, at the
7 fence, but we're not really sure that the fence really
8 represents completely around the perimeter of the
9 plant where the site boundary is.

10 So I just want to make sure that the
11 record is correct. If you have a copy of the draft
12 site, figure 2-3 has a layout of the site, and there
13 is a black line around the site perimeter that
14 represents the site boundary. So that is the correct
15 and complete and accurate answer to the question.

16 So I just wanted to correct that, Chip.
17 Thank you.

18 MR. CAMERON: Thank you very much, Rani.
19 And before we go to comments, Leslie is just going to
20 wrap up some details for us. Go ahead, Leslie.

21 MS. FIELDS: Turning now to our
22 conclusions, we found that the impacts of license
23 renewal are small in all areas. We also concluded
24 that the environmental effects of alternative actions
25 may reach significance in some impact categories.

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1 Based on these results our preliminary
2 recommendation is that the adverse environmental
3 impacts of license renewal for Nine Mile Point are not
4 so great that preserving the option of license renewal
5 for energy planning decision makers would be
6 unreasonable.

7 As a quick recap of our current status, we
8 issued the draft SEIS for Nine Mile Point units one
9 and two license renewal on September 29th, 2005. We
10 are currently in the middle of the public comment
11 period that is scheduled to end on December 22nd,
12 2005.

13 We expect to address the public comment,
14 including any necessary revisions to the draft SEIS,
15 and issue a final SEIS in June of 2006.

16 This site identifies me as your primary
17 point of contact with the NRC for preparation of the
18 environmental impact statement, and it also identifies
19 where documents related to our review may be found in
20 the local area.

21 The Nine Mile Point draft SEIS is
22 available at the Penfield Library on the SUNY Oswego
23 college campus. All documents related to the review
24 are also available on NRC's website at www.nrc.gov.

25 In addition, as you came in today, you

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1 were asked to fill out a registration card at the
2 reception table. If you included your address on that
3 card, we will mail you a copy of the final SEIS. And
4 that would be the blue card that you filled out.

5 If you did not fill out a card, and if you
6 would like a copy of the draft and final SEIS for Nine
7 Mile Point, after the meeting please see Sam
8 Hernandez, our project engineer supporting this
9 review.

10 Sam, please raise your hand.

11 Now in addition to providing comments at
12 this meeting, there are other ways that you can submit
13 comments for our environmental review process. You
14 can provide written comments to our chief of the rules
15 and directives branch at the address listed on the
16 slide.

17 You can also make comments in person if
18 you happen to be in the Rockville, Maryland area.

19 We have also established a specific email
20 address at the NRC for the purpose of receiving your
21 comments on the draft environmental impact statement.
22 And that email address is NineMilePointEIS@NRC.gov.
23 All of your comments will be collected and considered.

24 This concludes my remarks. Thank you
25 again for taking time to attend this meeting.

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1 MR. CAMERON: Okay, thank you very much,
2 Leslie and Bruce and Bob Palla and Rani.

3 We're going to go to public comment now.
4 And usually we ask the representative of the license
5 applicant to explain what their rationale is for
6 license renewal.

7 And we have Mr. Jim Hutton with us, who is
8 licensing manager at the Nine Mile Point nuclear
9 station.

10 And then we are going to go to Linda Bond-
11 Clark after Mr. Hutton is done.

12 Sure, what is your question?

13 MS. HOBBS: I was wondering what is the
14 purpose of the comments here today? What is the
15 expectation that the comments should involve?

16 MR. CAMERON: Well, we're looking for any
17 comments, do you want to answer that?

18 MS. FIELDS: Yes, I can answer it. We are
19 requesting that if you have comments on the draft
20 SEIS, the book that we provided in the back, if you
21 have any comments that you would like included in the
22 draft SEIS, or if there are areas that you feel were
23 missed and you would like to add to the document,
24 those are the types of comments that we are requesting
25 today.

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1 MR. CAMERON: And if you have some
2 concerns that are related to the environmental review,
3 even though it's not related to a particular part of
4 it, you can give us those, too.

5 All right, thanks, Leslie.

6 Mr. Hutton.

7 MR. HUTTON: Thank you, good evening.

8 I'd first like to thank the NRC staff for
9 their efforts in organizing the meeting here tonight.

10 Here with me today is Dave Dellario, who
11 helped manage our license renewal effort, and Carla
12 Logan, who his involvement in our environmental
13 management at Constellation Energy, along with some
14 others from Constellation Energy, Nine Mile Point
15 nuclear plant.

16 The first thing all our employees see
17 everyday when they come into our site is an
18 illuminated sign that states our commitment to safety
19 and environmental stewardship.

20 Constellation Energy has an unceasing
21 focus on safety - the safety of our employees, the
22 safety of the people who live and work in the local
23 are.

24 We continue to ensure that our operations
25 have little or not impact on the air, water or

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1 endangered species.

2 Nuclear energy, and Nine Mile Point
3 specifically, is an important source of clean cost-
4 effective energy.

5 About one in five homes in the United
6 States is powered by nuclear energy, and nuclear
7 energy avoids dependence on foreign oil.

8 Nine Mile Point currently generates enough
9 electricity to power more than - about 2 million
10 homes. Nuclear energy needs to be part of our
11 country's diversified energy supply.

12 Nine Mile Point was the first nuclear
13 power station to obtain international accreditation,
14 ISO 14001, for its environmental management program.
15 We're very proud of that.

16 At Nine Mile Point protecting the
17 environment is part of each employee's job everyday.
18 In addition, a significant part of the site provides
19 habitat for wildlife such as deer, turkey, fox,
20 various birds.

21 Part of Constellation Energy's
22 responsibility in the license renewal process is to
23 prepare an environmental report, and to evaluate the
24 environmental impacts of extended operation of Nine
25 Mile Point unit one and two, and assess their level of

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1 significance.

2 Our assessment, included in the
3 environmental report that we submitted to the NRC in
4 May, 2004, concluded that continued operation of our
5 nuclear station will not result in significant adverse
6 environmental effects.

7 We received formal notification from the
8 NRC staff of their preliminary conclusion that
9 continued operation of the Nine Mile Point nuclear
10 plants one and two does not pose an unacceptable risk
11 of adverse environmental impact.

12 NRC's conclusions are consistent with our
13 analysis as contained in the environmental report.

14 We work not only to improve our
15 environmental performance, but also invest in our
16 equipment and operational improvements.

17 Nine Mile Point, like every nuclear plant,
18 is continuously being upgraded. Every critical
19 operating part is routinely inspected and monitored by
20 us and the NRC, resident inspectors who were introduce
21 here tonight and others.

22 Our normal routine for maintaining our
23 nuclear plant involves inspection, repair,
24 refurbishment, replacement of primary operating
25 components every 24 months during regularly scheduled

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1 refueling and maintenance outages.

2 And as technology advances, obsolete and
3 early design components are upgraded.

4 We continue to be committed community
5 partners. We provide community support in the form of
6 good stable jobs, and in terms of participating in and
7 funding events and organizations important to the
8 area.

9 Last year Constellation Energy and its
10 employees provided more than \$300,000 in donations to
11 community organizations and events.

12 Every employee at Nine Mile Point
13 understands that all our community efforts are only
14 worthwhile if we operate our facility with an
15 unceasing commitment towards safety and environmental
16 protection.

17 Nine Mile Point is important to the local
18 community. It plays a part in our country's energy
19 future.

20 The improvements we've made ensure that we
21 meet today's exacting standards of operations.

22 I assure you that if given permission to
23 operate this station for an additional 20 years, our
24 employees will continue to demonstrate their ongoing
25 commitment to all aspects of safety, reliability,

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1 performance, and environmental stewardship.

2 We look forward to hearing comments from
3 the public this evening. We are willing to work with
4 anyone who is interested in hearing more about our
5 power generation operation, environmental performance,
6 or safety culture.

7 Again, we thank you for the opportunity to
8 speak today.

9 MR. CAMERON: Okay, thanks, Mr. Hutton.

10 We're going to go to Linda Bond-Clark now
11 to address us. Do you want to come up here, Linda?
12 All right.

13 MS. BOND-CLARK: Good evening. Thank you
14 for allowing me the opportunity to speak tonight.

15 I guess if I might ask the question of how
16 many public officials are here tonight, people
17 representing the public? And - two people? Public
18 officials, people who hold offices? Elected
19 officials? Any elected officials here tonight?

20 None. Let the record show there are no
21 elected officials.

22 Of those people, if there had been any, I
23 was going to ask them how many had actually read the
24 draft SEIS.

25 One thing is, as I'm looking and hearing,

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1 I'm not hearing the human factor. Many times to model
2 and to look at scientific analogy doesn't always bring
3 in the human factor, and I'm seeing that missing here.

4 For example, the latest reports indicate
5 that 20 percent of the population in Oswego County
6 have not picked up their potassium iodide pills.

7 This is indicating that either the NRC or
8 the utilities are doing an awfully good job of lulling
9 the public into believing that there is no inherent
10 risk associated with nuclear plants.

11 The other thing is, I read through the
12 draft report, I noticed that it talked about a
13 transient population. We have a very large transient
14 population here in Oswego County, because much of our
15 land is farm. We have a lot of immigrants coming in
16 from whether it's Mexico or Puerto Rico or whatever.
17 And I didn't see them included in the large transient
18 population.

19 Another thing, the draw down, the cone of
20 depression around the Nine Mile Plant point, hasn't
21 been thoroughly investigated as far as how this is
22 affecting the groundwater availability for resident of
23 Oswego County.

24 For example when the town of New Haven,
25 many residents along the shoreline are complaining

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1 about not having the water available in their wells,
2 and I'm wondering if this constant drawdown isn't
3 affecting the groundwater table.

4 I would also suggest that you create a new
5 category. You've got low, medium, great. Perhaps you
6 should include one called catastrophic. When
7 something is totally demised and made unavailable at
8 any bottom, zero, it seems to me that should be a
9 category.

10 Another thing I didn't see was, although
11 alternative energy sources were looked at as far as
12 the implication of how they would affect the Nine Mile
13 Plant, they weren't noted as how they would affect the
14 general employment. Oswego County has very high
15 unemployment rate.

16 And perhaps if wind, and solar, were
17 invested in, it would create more job opportunities
18 for the people in Oswego County, and not just being
19 able to work with the nuclear plant.

20 I happened to review the report of the NRC
21 and the utilities back in the 1990s in a report that
22 I worked while I worked at Oswego State. I made 42
23 recommendations on improving the environmental impact,
24 environmental impact assessment. Of these absolutely
25 none were incorporated.

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1 The last time that I received a report
2 from the New York State Department of Health, which is
3 the agency with which the utilities share their data,
4 their reports are anywhere from five years late in
5 coming, at that time, too, no one in our public arena
6 was looking or reading the report.

7 I would suggest that even though they are
8 not edible, that I think that zebra mussels should be
9 included into the environmental assessment. They are
10 filter feeders, and they incorporate a lot of water,
11 and I think that maybe they would be a good indicator
12 as to radionuclides in the environment.

13 Also if the plans are releasing 100 curies
14 per year, I am really questioning the one millirem per
15 person dose factor of people around the plants.

16 And that's it for my comments. Thank
17 you.

18 MR. CAMERON: Okay, those are good
19 examples of the type of information that we like to
20 hear in comments for consideration.

21 One question for you. The study or the
22 42 recommendations from Oswego State, are you going
23 to submit a copy of that to us?

24 MS. BOND-CLARK: They were submitted.

25 MR. CAMERON: And when was that?

1 MS. BOND-CLARK: I did the study in 1990.

2 MR. CAMERON: Okay, but they weren't
3 submitted as part of this license renewal?

4 MS. BOND-CLARK: I can.

5 MR. CAMERON: I think that should be
6 something that we should look at. So please submit it
7 to us.

8 MS. BOND-CLARK: You've got a copy
9 somewhere.

10 MR. CAMERON: Thank you.

11 And Bruce, did you have something.

12 MR. McDOWELL: We will look at all the
13 comments that you made.

14 But I did want to address the migrant farm
15 labor, just because I found it quickly. It's on page
16 256, we did talk about the amount of migrant labor
17 here.

18 MR. CAMERON: And I think the comment was
19 that there were some groups that needed to be
20 addressed further?

21 MS. BOND-CLARK: Yes. I was just
22 questioning the number there, that's all.

23 MR. CAMERON: Okay, thank you.

24 Some of you came in after - you might not
25 have had an opportunity to fill out the yellow card

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1 that we asked people to fill out if they wanted to
2 make a comment. But you are certainly free to
3 comment.

4 I didn't know, Katherine, if you wanted
5 to say anything, comment to us or Tom, or anybody else
6 at this point? If you want to, please come up and
7 talk to us.

8 Okay. And there is a written comment
9 period too. And part of the reason for the public
10 meeting is not only to give people an opportunity to
11 talk tonight, but to give you a chance to hear
12 information that you might want to use to submit a
13 written comment to us, or email.

14 Tom, did you want to say something? Go
15 ahead.

16 MR. DELLWO: I'm not prepared either, but
17 I just like getting up in front of podiums.

18 In my questions and stuff like that, I
19 didn't mean to disparage the people that work at Nine
20 Mile, or the NRC, or any of that.

21 My concerns fundamentally deal with,
22 number one, the idea that I don't know of any other
23 type of power that puts at risk as many lives as
24 nuclear energy does. And I think that is borne out by
25 the fact that we have the Nuclear Regulatory

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1 Commission, which is specifically for nuclear power
2 plants. We have to have this organization that
3 regulates them and looks after them because of the
4 possible damage that they could cause, that's
5 catastrophic as Linda said.

6 And so I think that - and I think that one
7 comment that I have, and I'm going to make this really
8 short, but one comment that I would have about the
9 GEIS and this whole process is that I'm not a
10 scientist, and I know of only one person who is a
11 scientist here, that was a member of the public that
12 came of her own volition, and that is Linda.

13 And I guess, I mean I understand that the
14 NRC has staff, and that they hire people to do this,
15 and they hire scientists to do this, but the public,
16 and especially in a community like Oswego, in a county
17 like Oswego, doesn't have the money to do something
18 like that on their own.

19 And I would like to see possibly the
20 nuclear power plants pay for a totally independent -
21 from the NRC or anybody else - somebody who could come
22 to possibly look it over, look over the GEIS, look
23 over the work that was done by the scientists who were
24 paid by the NRC, a number of different things that
25 they could look at, because I don't have the expertise

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1 to do that. I work all day. I didn't even have the
2 time to read the whole document.

3 And so I think that that is something that
4 could really benefit the public, that we had somebody
5 who has the money and the time to go out and follow up
6 with this and do the study independent from anything
7 having to do with the NRC.

8 And that would be my comment.

9 Thank you.

10 MR. CAMERON: Okay, thank you, Tom. Do
11 you want to go up?

12 MS. HOBBS: Do I have to go up?

13 MR. CAMERON: You don't need to. You want
14 to talk from right here with this?

15 MS. HOBBS: Well, yes, okay. In addition
16 to that, it would be nice to see maybe some sort of
17 task force whose task it is to educate particularly
18 local residents about some of the technical issues and
19 in terms of the environmental impacts for instance.

20 I think even in terms of Risk
21 communication to the public, and specifically local
22 residents. And just seeing my second public meeting,
23 and I appreciated Linda's question about how many
24 elected officials are here, and I would ask also how
25 many local residents are here. And that is one of my

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1 big concerns, why aren't more people, stakeholders,
2 local people who are affected by the potential risks
3 involved represented or here?

4 And then my other big thing is about the
5 assumption, that I now I need to speak more with some
6 of you about this. But the one assumption,
7 particularly with the health studies, you mentioned
8 based on Chernobyl, and based on the effluents.

9 But that seems like a pretty big
10 assumption, to go from like what might be predicted to
11 happen from the radiological effluents or based on
12 other data from other sources.

13 It seems to me, why not be more certain?
14 Isn't that what science - you are supposed to be
15 reducing uncertainty. So it seems to me that more
16 efforts - you know, you have the resources to do it.
17 Why aren't you doing it? Why aren't you going into
18 the community and actually monitoring the health of
19 people in the community?

20 MR. CAMERON: Okay, thank you for those
21 comments on education and maybe when you get together
22 with people and talk after this, they can talk about
23 a little bit about what the NRC's authority is in this
24 area to do things like that. Because there may be
25 some limitations there, and what other agencies do

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1 things like that.

2 But I think that generally my colleagues
3 would say that their conclusions and their evaluations
4 are based on science. And I think that I would just
5 exhort them to talk to you about that, and to
6 demonstrate that.

7 Okay, thank you all, from the
8 facilitator's point of view, for your comments and
9 courtesy, and being concise. And I would just ask
10 Rani if she would close the meeting out for us so that
11 we can have some informal discussions.

12 MS. FRANOVICH: Thank you, Chip.

13 I just wanted to again thank you all for
14 coming out. I know that we're all busy and have
15 hectic lives, and your participation really is very
16 important. It's also an opportunity for the NRC to
17 meet with members of the public. It's an opportunity
18 to we don't get very often, and we really enjoy it.
19 So thank you again for coming.

20 As you came into the room, one of the
21 things that you hopefully received is an NRC public
22 meeting feedback form; it looks like this. If you
23 have any ideas or suggestions on how we can improve
24 our public meeting process we'd like to hear them.
25 Any way we might be able to conduct the meetings that

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1 would meet your needs a little bit better, please
2 share those with us.

3 These forms are prepaid. The postage is
4 prepaid, so just fold them up and send them in, or you
5 can leave them with us when you leave tonight.

6 If you have any comments on the draft
7 document, for Nine Mile Point, that you didn't want to
8 provide tonight as we've said earlier, you can submit
9 them by email or in writing. We will be taking those
10 comments until December 22nd, 2005.

11 MR. CAMERON: And Leslie Fields, who is
12 the environmental project manager, is the point of
13 contact for that.

14 And finally, if you wish to speak with any
15 of us after the meeting, several of us will be hanging
16 around for a few minutes afterwards, and we'd be
17 delighted to talk with you more.

18 So thanks again for coming out, and we
19 appreciate your participation in our process.

20 (Whereupon the proceeding in the above-
21 entitled matter was adjourned)