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Peach Bottom Power Station, Units 2 & 3
License Renewal - Afternoon Session

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U.S. NUCLEAR REGULATORY COMMISSION

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PEACH BOTTOM POWER STATION, UNITS 2 AND 3

LICENSE RENEWAL

DRAFT ENVIRONMENTAL IMPACT STATEMENT

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PUBLIC MEETING

+ + + + +

Wednesday,

July 31, 2002

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The meeting was held at 1:30 p.m. at the Peach Bottom Inn, 6085 Delta Road, Delta, Pennsylvania, Chip Cameron, Facilitator, presiding.

PRESENT:

CHIP CAMERON, FACILITATOR

JOHN TAPPERT

RAJ ANAND

DUKE WHEELER

BRUCE MCDOWELL

BOB PALLA

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

(1:30 p.m.)

FACILITATOR CAMERON: Good afternoon, everybody, and welcome to the Nuclear Regulatory Commission's public meeting this afternoon.

My name is Chip Cameron, and I'm the special counsel for public liaison at the Nuclear Regulatory Commission, or NRC, as you will hear that acronym a lot today.

It is my pleasure to serve as your facilitator for the meeting this afternoon. And in that role I'm going to try to help all of you, who are here today, to have a productive meeting.

The subject of today's meeting is the application to, from Exelon Generation, Corporation, to renew the licenses for units 2 and 3 at the Peach Bottom atomic power station.

We were here last year, on November the 7th, to give you a little bit of background on the NRC's process for evaluating these license renewal applications. And, specifically, to get your ideas and suggestions on what we should include in the environmental review that we do, as one part of the evaluation of the license renewal application.

Well, today we are back with you to

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1 discuss the findings in a draft environmental impact
2 statement that we have prepared. And our objectives
3 today are to describe what those findings are, to make
4 sure that everybody understands what the license
5 renewal process is all about, and what the NRC's
6 responsibilities are.

7 That is one objective, to give you
8 background and answer your questions. The second
9 objective is to listen to any comments that you might
10 have on the draft environmental impact statement, or
11 license renewal, generally.

12 We are accepting written comments on these
13 issues, and you will hear from the NRC staff in a
14 little bit more detail on that process. But we did
15 want to be with you, in person, this afternoon to talk
16 with you, and to hear your comments.

17 You may hear some information from the
18 NRC, or other people in the audience today, that
19 stimulate you to submit a written comment. But I do
20 want to emphasize that anything that you say today
21 will carry the same weight as a comment that is
22 submitted in writing.

23 Before we get on with the meeting, the
24 substance of the discussion, I wanted to just talk
25 briefly about the format for the meeting, and the

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1 ground rules for the meeting.

2 The format is, basically, corresponds to
3 the objectives that we have for the meeting. The
4 first segment of the meeting is to give you
5 information. And we have some, a series of brief, and
6 I will emphasize that, brief NRC presentations on
7 various aspects of license renewal.

8 And, of course, on the most important
9 subject, the findings in the draft environmental
10 impact statement. After each of those NRC
11 presentations we will go out to you for questions to
12 make sure that you understand what we are talking
13 about.

14 The second part of the meeting is where we
15 hear from you, and that is where we will have people
16 probably most comfortable, come up here, and give us
17 your comments. But we do have other microphones
18 available that you can talk from.

19 There is a sign-up card if you want to
20 speak. And it is not like it is a requirement for you
21 to speak. We do want to know, have an idea of how
22 many people want to talk today, so that we can
23 structure the time, so that everybody gets an
24 opportunity to talk.

25 But that is our format, and in a minute

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1 I'm going to introduce all of our speakers, and give
2 you a little bit of an idea on what their background
3 is, so that you know more about them.

4 In terms of ground rules during the first
5 part of the meeting, where we are going to try to be
6 interactive with you and see if you have questions, if
7 you do have a question just signal me, and I will
8 bring you this talking stick, and give us your name,
9 your affiliation if appropriate.

10 We are taking a transcript of the meeting,
11 that is going to be our record of the meeting, and
12 that will be available at the NRC's website. And if
13 anybody wants a hard copy of it we can get you that,
14 also.

15 I would ask, as a second ground rule, that
16 only one person speak at a time. That will help us to
17 keep a clean transcript so that our stenographer knows
18 who is saying what at the moment. But most
19 importantly it will allow us to give our full
20 attention to whomever has the floor at the time.

21 A third ground rule I would ask you to be
22 concise. And this is so that everybody who wants to
23 say something this afternoon has an opportunity to say
24 it. So I would just ask you to try to be brief in
25 your questions.

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1 I know this is a complex issue, an issue
2 of concern, and sometimes it is hard to be concise.
3 But I would just ask you to try to do that so that we
4 could give the other members of the audience time to
5 say whatever they want to say today.

6 During the second part of the meeting when
7 we go for formal comment, I'm asking you to follow a
8 five to seven minute ground rule. That is a little
9 bit fuzzy, we are not going to be keeping a timer on
10 you, but I would ask you to try to limit your comments
11 to that amount of time.

12 If you have a written statement that you
13 want to submit to the record, we will be glad to
14 attach that to the transcript for today's meeting.

15 And I would just thank all of you for
16 being here today. The NRC's decision on whether to
17 renew the licenses is an extremely important decision,
18 and we thank you for being here to assist us with that
19 decision.

20 And what I would like to do now is just to
21 briefly introduce our speakers, and give you an idea
22 of what the agenda is going to be for today's meeting.
23 I've asked John Tappert, who is right here, to also
24 give you a short welcome.

25 And I've asked John to do this because he

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1 is the section leader of the license renewal and
2 environmental renewal branch. He is the section
3 leader for the environmental review.

4 And John and his staff, any license
5 renewal application that comes in, they are the ones
6 who are responsible for supervising the preparation of
7 the environmental review. And John has been with the
8 NRC for approximately 11 years.

9 He has been a resident inspector at
10 nuclear power plants in NRC's Region One, which is the
11 region that covers the Peach Bottom plant. He has a
12 master's degree in environmental engineering, and his
13 bachelor's is in oceanographic and aeronautic
14 engineering.

15 After John is done we are going to go
16 right to our first substantive presentation, and that
17 is going to be on the license renewal process,
18 generally, and the safety evaluation that is done as
19 a part of that process.

20 And we have Mr. Raj Anand, who is right
21 here. Raj is the project manager for the safety
22 evaluation for this license renewal application, the
23 one that has been submitted for Peach Bottom.

24 And Raj is with, again, the license
25 renewal and the environmental impact branch. That is

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1 within our office of nuclear reactor regulation at the
2 Commission.

3 He has been with the NRC for 22 years
4 dealing with system and plant design. He has a
5 bachelor's in mechanical engineering, and has taken
6 graduate courses in nuclear science from Catholic
7 University.

8 We will go to you for questions about the
9 license renewal process, the safety evaluation, and
10 then we are going to get to the specific reason we are
11 here tonight, which is to discuss the environmental
12 impact statement, the draft environmental impact
13 statement.

14 And we are going to turn to Duke Wheeler
15 who many of you might know. Duke is the project
16 manager for the environmental review on the Peach
17 Bottom license applications.

18 And he has been with the NRC for 21 years
19 in power plant licensing, project management
20 responsibilities for these power plants. He also has
21 inspection experience, and he has a bachelor's degree
22 from the military academy at West Point.

23 And he will be giving you an overview of
24 the environmental review process, go out to you for
25 questions, again. And then we are going to get to the

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1 real heart of today's meeting.

2 And that is going to be what are the
3 findings in the draft environmental impact statement?
4 And as you will hear the NRC is helped in its
5 environmental review responsibilities by some expert
6 scientists and consultants that the NRC hires.

7 And we have Bruce McDowell, right here,
8 who is the task leader for the environmental review on
9 the Peach Bottom license renewal applications. And
10 Bruce is with the Lawrence Livermore National
11 Laboratory in California. And he is an environmental
12 assurance manager there, in the environmental
13 protection department.

14 He has master's degrees in economics and
15 business, and is going for a PhD in atmospheric
16 sciences. And he will present that part of the
17 environmental impact statement to you. We will go to
18 you for questions on that.

19 The final presentation is on one aspect of
20 the environmental impact statement, and that is severe
21 accident and mitigation alternatives. And to tell us
22 about that particular part of the statement we have
23 Bob Palla, who is right here.

24 Bob is an NRC employee, he is with the
25 probabilistic safety assessment branch at the NRC.

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1 Again, this is in our office of nuclear reactor
2 regulation. And his expertise and experience is in
3 risk analysis, and severe accidents.

4 He has been with the Agency for 21 years,
5 and he has a master's degree in mechanical engineering
6 from the University of Maryland.

7 And with that I'm going to ask John
8 Tappert to give you a brief welcome, and then we will
9 go to Raj Anand, and then back out to you for
10 questions.

11 John?

12 MR. TAPPERT: Thank you, Chip, and
13 welcome. As Chip said, my name is John Tappert, I'm
14 chief in the environmental section in the office of
15 nuclear reactor regulation.

16 And, again I would like to welcome you to
17 this meeting, and thank you for participating in our
18 process.

19 As Chip mentioned, there are several
20 things we would like to cover today, and I would like
21 to briefly reiterate the purposes of this meeting.
22 First we would like to give you a brief overview of
23 the entire license renewal process.

24 This includes both a safety review as well
25 as an environmental review, which is the principal

1 focus of today's meeting. Second we will provide you
2 the preliminary results of our environmental review,
3 which assesses the environmental impacts associated
4 with extending the operating license of the Peach
5 Bottom units for an additional 20 years.

6 Finally we will provide you the schedule
7 for the balance of our review, and also give you
8 information about how you can participate in this
9 process by submitting written comments on our draft
10 environmental impact statement.

11 At the conclusion of the Staff's
12 presentation we will be happy to receive any questions
13 or comments that you may have on our draft
14 environmental impact statement.

15 But first let me provide some context for
16 the license renewal program. The Atomic Energy Act
17 gives the NRC the authority to issue operating
18 licenses to commercial nuclear power plants for a
19 period of 40 years.

20 For Peach Bottom Units 2 and 3 these
21 operating licenses will expire in 2013 and 2014,
22 respectively. Our regulations also make provisions
23 for extending these operating licenses for an
24 additional 20 years, as part of the license renewal
25 program, and Exelon has requested license renewal for

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1 both of these units.

2 As part of the NRC's review of that
3 license renewal application we conducted an
4 environmental scoping meeting here last November. At
5 that meeting we provided information on the license
6 renewal process; and also sought your input on issues
7 to be included in the environmental impact statement.

8 As we indicated at the scoping meeting, we
9 return now, today, to provide the preliminary results
10 of our review. And, again, one of the principal
11 reasons for the meeting today, is to receive your
12 questions and comments on that draft.

13 And with that brief welcome I would like
14 to ask Raj Anand to give a brief overview of the
15 safety portion of the license renewal.

16 MR. ANAND: Thank you, John. Good
17 afternoon, ladies and gentlemen. My name is Raj
18 Anand. I'm the project manager for the safety review
19 of the application for license renewal for the Peach
20 Bottom Atomic Power Station, Unit 2 and 3.

21 The Atomic Energy Act, and the National
22 Environmental Policy Act, provides that the Nuclear
23 Regulatory Commission is responsible for the public
24 health and safety, protection of the environment, and
25 the common defense and security.

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1 It also provides that each power reactor
2 would have a 40 year license term. But the Atomic
3 Energy Act went on to say that those licenses could be
4 renewed. The original 40 year license term was based
5 on the antitrust and economic factors, not on the
6 technical limitation of the plant design.

7 License renewal is governed by the
8 requirements of 10CFR Part 54. This license renewal
9 rule defines the regulatory process by which a nuclear
10 utility, such as Exelon Generation Company, applies
11 for a renewed operating license.

12 License renewal rule incorporates 10CFR
13 Part 51 by reference. 10 CFR Part 51 provides for the
14 preparation of an environmental impact statement, or
15 EIS. The license renewal rule process defined in 10
16 CFR Part 54 is very similar to the original licensing
17 process in that it involves safety reviews, and
18 environmental impact evaluation, plant inspections,
19 and review by the Advisory Committee of the Reactor
20 Safeguards, ACRS.

21 The ACRS is a group of scientists and
22 nuclear industry experts, who serves as a consulting
23 body to the Commission. The ACRS performs an
24 independent review of the license renewal application,
25 and the staff's safety evaluation, and they report

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1 their findings, and recommendations directly to the
2 Commission.

3 The next slide illustrates two parallel
4 processes. You will see one at the top of the slide,
5 the other toward the bottom of the slide. The two
6 parallel processes are the safety review process, and
7 the environmental review process.

8 These processes are used by the Staff to
9 evaluate two separate aspects of the license renewal
10 application. The safety review involves the Staff's
11 review of the technical information in the application
12 for renewal to verify, with reasonable assurance, that
13 the plant can continue to operate safely during the
14 extended period of operation.

15 The Staff assesses how Applicant proposes
16 to monitor or manage aging of certain structures, or
17 components, that are within the scope of license
18 renewal.

19 The Staff's review is documented in a
20 safety evaluation report and the safety evaluation
21 report is provided to ACRS for review, and an ACRS
22 report is prepared to document their review of the
23 Staff's finding.

24 The Staff's process also involve two or
25 three inspections which are document in the NRC

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1 inspection reports. These inspection reports are
2 considered with the safety evaluation report, and the
3 ACRS report, in NRC's decision to renew the operating
4 licenses.

5 If there is a Petition to Intervene,
6 sufficient standing can be demonstrated, and an aspect
7 within the scope of the license renewal has been
8 identified, then the hearings may also be involved in
9 the process. These hearings will play an important
10 role in the NRC's decision on the application, as
11 well.

12 At the bottom of the slides I another
13 parallel process, the environmental review, which
14 involves scoping activities, preparation of the draft
15 supplement to the generic environmental impact
16 statement, solicitation of public comments on the
17 draft supplement, and then the issuance of the final
18 supplement to the generic environmental impact
19 statement.

20 This document also factors into the
21 Agency's decision on this application. During the
22 safety review the Staff assesses the effectiveness of
23 the existing, or proposed inspection, and maintenance
24 activities to manage aging effects applicable to a
25 defined scope of passive structures and components.

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1 Part 54 requires that the application also
2 include evaluation of time limited aging analyses,
3 which are those design analyses that specifically
4 include assumption about plant life, usually 40 years.

5 Current regulations are adequate for
6 addressing active components, such as pumps, valves,
7 which are continuously challenged to reveal failures
8 and degradation, such that corrective actions can be
9 taken.

10 Current regulations also exist to address
11 other aspects of the original license, such as
12 security, and emergency planning. These current
13 regulations will also apply during the extended period
14 of operation of the plant.

15 Two parallel products from the NRC staff
16 are the safety evaluation report, and the
17 environmental impact statement. Those are taken
18 together with two other pieces.

19 One is an independent review of the safety
20 issues by the Commission's Advisory Committee on
21 Reactor Safeguards. That is an independent body of
22 experts from the industry and academia, who have the
23 particular expertise on safety issues, and they look
24 at the quality of the Staff's safety findings.

25 There is also an independent inspection

1 program that verifies certain key elements of the
2 Staff's safety findings. Our decision on this license
3 renewal application will rely on a safety evaluation
4 report, and environmental impact statement that
5 developed with public participation, an ACRS report,
6 and an independent inspection report. And those are
7 the four principal products.

8 The schedule for this activity is about a
9 25 month schedule, because for this application we
10 have had no petitions to intervene for a hearing. Had
11 there been a petition for a hearing submitted and
12 granted, then the schedule would have been 30 months
13 to get through the whole process.

14 I will be available, after the meeting, if
15 there are any questions that you have about the aging
16 management program review, or the specifics of the
17 safety review process, or the contents of the safety
18 evaluation report.

19 Now, I'm going to turn it over to Mr. Duke
20 Wheeler.

21 FACILITATOR CAMERON: Raj, let's see if
22 there are some questions for you. And I just wanted
23 you to clarify one thing before we go out to the
24 audience.

25 You said the schedule was 25 months. Can

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1 you give people a specific target date, or month, for
2 when this decision is supposed to be made?

3 MR. ANAND: The Commission plans to issue
4 operating licenses for both units, units 2 and 3, in
5 July 2003.

6 FACILITATOR CAMERON: You mean they will
7 issue their decision on whether to renew the licenses?

8 MR. ANAND: Right.

9 FACILITATOR CAMERON: All right. You
10 heard Raj talk about the overall process and,
11 specifically, about the safety evaluation. We are
12 going to go on to other subjects.

13 Are there any questions about the process
14 at this point? Yes. And give us your name, please.

15 MR. GUNTER: My name is Paul Gunter, and
16 I'm with the Nuclear Information Resource Service in
17 Washington.

18 We have been following the issue of --
19 there are a whole host of issues, particularly with
20 regard to age related deterioration of the reactors.

21 And the vulnerability of some of the
22 materials that make up the reactor are being evaluated
23 10, 12 years in advance of the issuance of the
24 license. And what we are seeing is that by and large
25 there are more uncertainties with regard to how cracks

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1 grow, how they initiate, how quickly they can grow to
2 failure.

3 And, yet, this license proceeding is
4 taking it, basically, approaching this issue of age
5 related deterioration, 10, 12 years in advance of when
6 this license will be necessary.

7 Can someone address, to us, why the
8 license renewal proceeding is occurring 12 to 14
9 years, in some cases, before the license is actually
10 to expire?

11 FACILITATOR CAMERON: Thanks, Paul. And
12 I not only would like the NRC staff to answer that
13 question, but I think the implication in Paul's
14 question is between the time the decision is made on
15 these license renewal applications, if there was an
16 affirmative decision, how will the NRC monitor
17 continued aging types of impacts after that point.

18 We are going to John Tappert.

19 MR. TAPPERT: All right. Yes, you are
20 accurate, we do it often well in advance of the
21 expiration of the license. Our regulations allow them
22 to submit an application up to 20 years before the
23 original license expires.

24 The reason for that is to allow them to
25 make economic decisions if, in fact, the license is

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1 not renewed, to replace base-load power. I mean,
2 there is a long lead time for those kinds of
3 facilities.

4 What we are assessing is to make sure that
5 they have aging management programs in place to
6 identify cracking and to replace components as they
7 are needed.

8 Additionally, just because the license is
9 renewed doesn't mean they are exempt from regulatory
10 oversight. If a mechanism has come to our attention,
11 I'm sure you are familiar with the Davis-Besse head
12 degradation event, that is an operating reactor issue,
13 and we are dealing with that, with all of the entire
14 fleet of PWRs, irrespective of whether they are coming
15 into license renewal or not.

16 So we still have a variety of regulatory
17 means to go out and do inspections, and request
18 actions for the licensees to respond to aging
19 management or any other degradation mechanisms.

20 FACILITATOR CAMERON: Okay, thank you
21 John. Let's go to -- yes, ma'am?

22 MS. BERRYHILL: My name is Frieda
23 Berryhill, and I'm concerned with this aging
24 management program because we had a lot of problems
25 with the cracks and embrittlement in the nozzles,

1 particularly.

2 Will this be managed centrally from
3 Washington, or does each plant have a managing program
4 concerning aging?

5 FACILITATOR CAMERON: That is a great
6 question. Can we have someone talk about how the NRC
7 headquarters and regions, in our regional office,
8 divide up responsibility for not only the license
9 renewal review, but continued aging management issues?
10 Does someone want to try to handle that?

11 We are going to go to John.

12 MR. TAPPERT: The question is, is the
13 program being run out of headquarters, and the
14 regional offices?

15 MS. BERRYHILL: Centrally, yes. We cannot
16 address our concerns due to aging because that is
17 really the main problem that concerns us.

18 MR. TAPPERT: Yes. I would say
19 headquarters is -- we are running the license renewal
20 review out of headquarters. I'm out of headquarters,
21 most of these gentlemen are also out of our
22 headquarters office, and the office of nuclear reactor
23 regulation.

24 And we are doing the reviews of the aging
25 management programs to make sure that they are in

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1 place, and acceptable. The region has a role, they do
2 inspections for us, they inspect to make sure that
3 they are looking at the right components, and that
4 they have appropriate programs in place.

5 They also have ongoing inspection
6 activities at the plant. You may or may not be aware
7 we have NRC employees stationed at the plant, around
8 the year. And those are regional employees.

9 So all the inspection activity is coming
10 out of the region, but this particular review is being
11 run out of headquarters, and we have contact numbers
12 that will be provided in the presentation, to get a
13 hold of us.

14 MS. BERRYHILL: But aging managing is the
15 new --

16 FACILITATOR CAMERON: We need to get
17 everybody on the transcript, so let me bring this out
18 to you if you have a follow-up question. If you could
19 just repeat that question, the last one you asked for?

20 MS. BERRYHILL: Yes, aging management is
21 a new department, do we have someone to address when
22 something like this comes up?

23 FACILITATOR CAMERON: Absolutely. John,
24 why don't you go up to that mike and I will stay out
25 here.

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1 MR. TAPPERT: Okay. The branch that I'm
2 part of is called license renewal and environmental
3 impacts. And one of the sections looks at aging
4 management programs.

5 And Raj Anand is the safety project
6 manager who specifically is overseeing that review.
7 We are going to give you a bunch of names at the end.
8 You can contact any of us, and we will get you in
9 contact with the right person. Actually Dr. P.T. Kuo
10 is the one who is actually heading our organization.

11 FACILITATOR CAMERON: Thanks, John. And
12 I would just emphasize, when we are done with the
13 meeting today, please take the opportunity to talk to
14 the NRC staff that are here, they will try to be
15 helpful with questions.

16 And I think we do have some of our
17 regional staff here, today, too. Let's go to this
18 gentleman, and then we will go over here.

19 MR. NELSON: Allan Nelson, NEI. I would
20 just like to respond a bit to the woman's question, if
21 I may.

22 The NRC has developed a document called
23 Generic Aging Lessons Learned, where it takes into all
24 the operating experience that have occurred up to
25 April 2001. From that point on it is up to the NRC,

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1 and the licensee, to evaluate any aging lessons
2 learned that can take place from that time forward,
3 and incorporate it into its license.

4 And then as part of its ongoing program
5 continue to evaluate operating lessons learned, and
6 implement those into their program, as they see fit
7 for that particular licensee.

8 FACILITATOR CAMERON: Thanks, Allan, for
9 that additional information. Let's go to you.

10 MR. SILVER CLOUD: Rutisa Lugisky, here
11 locally. That is Silver Cloud in the English language.
12 The question I have, has any forethought been given to
13 500 years, 1,000 years from now, as to the aging
14 management thing? Honestly, has anyone thought that
15 far out?

16 FACILITATOR CAMERON: Okay, thank you
17 Silver Cloud. And I'm not going to try to say the
18 Cherokee word for your name, for obvious reasons.

19 John, Raj, you heard the question, and it
20 deals with continual evaluation. And do you have
21 something for Silver Cloud?

22 MR. TAPPERT: This particular review that
23 we are doing now is to relicense the plant for an
24 additional 20 years. So the focus is to have aging
25 management programs to cover that period of time.

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1 When you are talking to these longer time
2 frames, it is not so much this particular facility,
3 which will not be operating in those times, but there
4 will be a geological repository to handle the spent
5 fuel waste, and those areas we do look at those kinds
6 of time frames.

7 FACILITATOR CAMERON: When this license,
8 if this license is renewed, it will be renewed for a
9 specific period of time. Can you just tell people,
10 you or Raj, what that renewal period is?

11 MR. TAPPERT: Right. The current
12 expiration is 2013 and 2014, they will be adding
13 another 20 years to that, 2033 and 2034.

14 FACILITATOR CAMERON: Thank you very much.
15 Any other questions on this part of the process,
16 before we go to the environmental?

17 (No response.)

18 FACILITATOR CAMERON: Okay, thank you very
19 much, and thank you Raj, thank you John. Now we are
20 going to go to Duke Wheeler, who is the project
21 manager for the environmental review, and he is going
22 to give you an overview of the environmental review
23 process.

24 MR. WHEELER: Good afternoon. As Chip
25 said, I'm Duke Wheeler, I'm the environmental project

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1 manager responsible for the development of the draft
2 environmental impact statement associated with the
3 proposed licensing action to renew licenses for Peach
4 Bottom Units 2 and 3.

5 It is my responsibility to coordinate the
6 efforts of the NRC staff, and our National Labs, to
7 develop this environmental impact statement.

8 The National Environmental Policy Act of
9 1969 requires a systematic approach in evaluating the
10 impact of proposed major federal actions.
11 Consideration is to be given to the impacts of the
12 proposed action and mitigation, where appropriate, for
13 significant impacts.

14 Alternatives to the proposed action,
15 including the no-action alternative, are also to be
16 considered. The National Environmental Policy Act is
17 a disclosure tool and, by its design, it involves
18 public participation.

19 Our NRC regulations require that an
20 environmental impact statement be prepared for license
21 renewal actions. We have drafted an environmental
22 impact statement, we have published it for comment,
23 and we are holding this meeting here today, to provide
24 one means for the public to make comment on our draft
25 environmental impact statement.

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1 Our decision standard is, stated simply,
2 are the environmental impacts of the proposed action
3 great enough that maintaining the license renewal
4 option for Peach Bottom 2 and 3 is unreasonable?

5 Please note that we do not decide
6 ourselves as to whether or not Peach Bottom Units 2
7 and 3 will operate for the additional 20 years. That
8 decision is made by other regulatory agencies, and the
9 licensee.

10 Very quickly, the process that we are
11 following for the environmental review, and if you
12 recall the flow chart that was up here a few minutes
13 ago, it was slide number 5, this is basically an
14 expansion of the bottom line of that chart.

15 Exelon submitted their license renewal
16 application to us in July of last year, and we
17 published an NRC notice in the Federal Register, of
18 our intent to develop an environmental impact
19 statement and conduct scoping.

20 We had a scoping, there was a scoping
21 period, we had a scoping meeting here, as a matter of
22 fact it was on November 7th at the Peach Bottom
23 Inspection, to accept comments from the public on
24 things that we should take into consideration during
25 our environmental review.

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1 In conjunction with that activity, on the
2 next day, on November the 8th, our team of laboratory
3 experts, and other people involved with the
4 development of the environmental impact statement,
5 conducted an on-site audit, where they actually walked
6 the ground, interacted with other federal, state, and
7 local agencies, and talked with representatives of the
8 licensee, who participated in development of their
9 environmental report.

10 We did have one request for additional
11 information, which we sent to the licensee in December
12 of last year, and we got the information we needed.
13 We prepared our draft environmental impact statement,
14 and published it at the end of June of this year.

15 On July the 5th of this year,
16 approximately three weeks ago, the Environmental
17 Protection Agency published their Federal Register
18 Notice, that we had filed this environmental impact
19 statement with them, and that started a 75 day public
20 comment period.

21 We are now having this meeting to provide
22 one means for you, the public, to provide us comments
23 on that draft environmental impact statement. And you
24 see the term GEIS, it is a draft supplement, the Peach
25 Bottom supplement is supplement 10, to a generic

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1 environmental impact statement that was prepared for
2 license renewal.

3 We are on schedule to publish our final
4 environmental impact statement, which would be the
5 final supplement 10, in February of 2003. During the
6 development of the draft environmental impact
7 statement we interacted with federal, state, and local
8 officials, as well as local service organizations.

9 We also considered comments received from
10 the public during the scoping period. I issued a
11 scoping summary report in April of this year, and the
12 sections of that report that are applicable to our
13 environmental review is attached to our draft
14 environmental impact statement as appendix A.

15 We've assembled a team of experts in
16 various environmental disciplines to assist in the
17 development of this environmental impact statement.
18 The disciplines include atmospheric sciences,
19 radiation protection, socioeconomics and environmental
20 justice, terrestrial ecology, land use, archeology,
21 and cultural resources, nuclear safety, regulatory
22 compliance, aquatic ecology, and hydrology.

23 If there are no questions on my comments
24 to this point, what I would like to do is turn the
25 meeting back to Chip Cameron, who will introduce the

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1 next speaker, Bruce McDowell, who will provide some
2 detail findings on our environmental review to date.

3 FACILITATOR CAMERON: Let's see if there
4 is any questions on the process. And Duke will be
5 back, later on in the program, to just give you some
6 more information about where to submit comments.

7 Yes, ma'am?

8 MS. MARKS: Marcia Marks, from Maryland.
9 My question is, you listed all the experts, but who
10 are your experts on public health? I didn't hear
11 anyone doing environmental health surveys to find out
12 what is happening to populations.

13 FACILITATOR CAMERON: Duke?

14 MR. WHEELER: We do have, on our team, an
15 expert in radiological impacts from an environmental
16 health perspective. Am I --

17 MS. MARKS: Who would that be?

18 MR. WHEELER: That is Mr. Hank Con.

19 FACILITATOR CAMERON: And Hank is with us
20 here today, right Duke?

21 MR. WHEELER: Yes, Hank is here today.

22 FACILITATOR CAMERON: So Marcia, maybe
23 after the meeting you can talk to him. We also have
24 other NRC experts on these issues with us today.

25 MR. WHEELER: Yes. Marcia, if after the

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1 meeting, or at some other time, we also have Patricia
2 Milligan, who is an expert in this particular area, as
3 well, who is also here to respond to these kinds of
4 interests.

5 FACILITATOR CAMERON: And Trish is with
6 the NRC staff, health physicist.

7 Any other questions on the environmental
8 review process, before we go on to -- yes, Paul?

9 MR. GUNTER: I will make this really
10 quick. I guess the concern for all of us is, when we
11 talk about, particularly about radiation protection,
12 who is the critical population that we want to
13 protect?

14 And for many of us that is about the
15 children. When -- in my dialogue with the Nuclear
16 Regulatory Commission, though, I find a disconnect.
17 Because the standard that we have actually considers
18 a 250 pound male that the standards are set against.

19 So I'm wondering if you could help
20 enlighten me on the disconnect that exists when we are
21 talking about who the critical population is that we
22 want to protect, when the most vulnerable of us is not
23 really considered in the standard.

24 FACILITATOR CAMERON: And Paul, thanks for
25 that question. And I think it would make more sense

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1 to answer that directly during Bruce's presentation,
2 and allow Trish to chime in on that.

3 So can we hold that question?

4 MR. GUNTER: Certainly.

5 FACILITATOR CAMERON: Okay. And we will
6 get to it during this next presentation. And I think
7 the question was clear. Unless, Duke, you want to --

8 MR. WHEELER: No, I think you've got it.
9 Well, I defer to Paul, is that the question?

10 MR. GUNTER: That is fine.

11 FACILITATOR CAMERON: We know this is an
12 awkward way to phrase what you've asked; but at least
13 it will let us go back to your question and try to
14 answer it.

15 Any other questions for Duke?

16 (No response.)

17 MR. WHEELER: Thank you.

18 FACILITATOR CAMERON: Now we are going to
19 get to Bruce to talk about the findings in the draft
20 environmental impact statement, and we will get to
21 questions such as the one that Paul just asked, after
22 that.

23 MR. MCDOWELL: As Chip said; my name is
24 Bruce McDowell, I work at the Lawrence Livermore
25 Laboratory, and I'm the task leader for the team that

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1 prepared the supplemental EIS for the Peach Bottom
2 Power Plant.

3 This slide shows the approach that we use
4 in making this analysis. The generic environmental
5 impact statement, which Duke has referred to as the
6 GEIS, NUREG 1437, identifies 92 environmental issues
7 that are evaluated for license renewal.

8 Sixty nine of these issues are considered
9 generic, or category one, which means that the impacts
10 are the same for all reactors, or the same for all
11 reactors with certain features, such as plants that
12 have cooling towers.

13 For the other 23 issues, referred to as
14 category 2, the NRC found that the impacts were not
15 the same at all sites, and therefore a site-specific
16 analysis was needed. And on this slide it shows the
17 category 2 approach.

18 Only certain issues addressed in the GEIS
19 are applicable to Peach Bottom. For those generic
20 issues that are applicable to Peach Bottom, we
21 assessed if there was any new information related to
22 the issue that might change the conclusion in the
23 GEIS, which is the new and significant information on
24 the slide.

25 If there is no new information, then the

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1 conclusions of the GEIS are adopted. If new
2 information is identified, and determined to be
3 significant, then a site-specific analysis would be
4 performed.

5 For the site-specific issues related to
6 Peach Bottom, a site-specific analysis was performed.
7 And, finally, during the scoping period, the public
8 was invited to provide information on potential new
9 issues, and the team during their review looked to see
10 if there were any new issues that needed evaluation.

11 For each issue identified in the GEIS, an
12 impact level is assigned. These impact levels are
13 consistent with the Council on Environmental Quality
14 Guidance for NEPA analysis.

15 For a small impact the effect is not
16 detectable, or too small to destabilize, or noticeably
17 alter any important attribute of the resource.

18 For example, the plant may cause the loss
19 of adult and juvenile fish at the intake structure.
20 If the loss of fish is so small that it cannot be
21 detected in relation to the total population of the
22 river, the impact would be small.

23 For a moderate impact the effect is
24 sufficient to alter noticeably, but not destabilize
25 important attributes of the resource. Using the fish

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1 example, again, if losses at the intake canal cause
2 the population to decline, but then stabilize at a
3 lower level, the impact would be moderate.

4 And, finally, for an impact to be
5 considered large the effect must be clearly noticeable
6 and sufficient to destabilize important attributes of
7 the resource.

8 So if losses at an intake canal, for
9 instance at Peach Bottom, cause the fish population to
10 decline to the point where it cannot stabilize, and
11 continually declines, that impact would be large.

12 In Chapter 2 of the draft supplemental EIS
13 we discuss the plant and the environment around the
14 plant. In Chapter 4 we then looked at the potential
15 impacts for an additional 20 years of operation at the
16 Peach Bottom Nuclear Power Station.

17 The issues that the team looked at are
18 issues related to the cooling system, the transmission
19 lines, radiological issues, socioeconomic issues,
20 groundwater use and quality, and threatened and
21 endangered species.

22 I'm going to take a few minutes to discuss
23 the highlights of our analysis. If you have any
24 questions about our findings, Chip will give you an
25 opportunity to ask them.

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1 One of the issues we looked at, closely,
2 is the cooling system for the Peach Bottom station.
3 This is the ladder, the cooling intake, and the
4 canals.

5 Although there are a number of category 1
6 issues related to the cooling system, and remember
7 that we said that category 1 issues are those that
8 have been determined to have the same significance for
9 all plants, no new and significant information was
10 identified, either during scoping, by the Applicant,
11 or by the Staff during the review.

12 The issues that the team looked at on a
13 site-specific basis include water use conflicts,
14 entrainment, and impingement of fish and shellfish,
15 heat shock, and enhancement of microbiological
16 organisms.

17 We found that the potential impacts in
18 these areas were small and additional mitigation
19 measures were not warranted.

20 Radiological impacts are a category 1
21 issue, because it is often a common concern to the
22 public I want to take a minute to discuss this issue
23 at Peach Bottom.

24 We looked at the effluent release and
25 monitoring program during our site visit. We looked

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1 at how the gaseous and liquid effluents were treated
2 and released, as well as how the solid wastes were
3 treated, packaged, and shipped.

4 We also looked at how the Applicant
5 determines and demonstrates that they are in
6 compliance with the regulations for release of
7 radiological effluents.

8 This slide shows you the near site, or on-
9 site location the Applicant monitors for atmospheric
10 releases and direct radiation. There are a number of
11 other monitoring stations beyond the site boundary,
12 including locations where water, milk, fish, and food
13 products are sampled.

14 Our review of the releases, and the
15 resulting dose calculations, found that the doses to
16 the maximally exposed individuals in the Peach Bottom
17 vicinity, were very small fractions of the EPA
18 environmental radiation standards.

19 In addition we found no new and
20 significant information relating to this issue. The
21 releases from the plant and the resulting off-site
22 potential doses are not expected to increase on a year
23 to year basis, during the 20 year license renewal
24 term.

25 During scoping comments were received with

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1 claims of elevated childhood cancer resulting from
2 releases of strontium 90. I'm going to do a short
3 summary at the end of my presentation. Any questions,
4 I think, would best be directed toward Tricia, who is
5 here from the NRC.

6 But to summarize the findings in Section
7 4.7, doses to the public from routine Peach Bottom
8 emissions were specifically evaluated in the 1996
9 generic EIS for license renewal, and were found to be
10 within regulatory limits.

11 In-plant monitoring of effluent streams
12 establishes that there have been no significant
13 releases of strontium 90 from the Peach Bottom plant.
14 In addition no causal relationship has been
15 established between levels of strontium 90 and
16 deciduous teeth, and childhood cancer.

17 Lastly there is a unanimous consensus, in
18 the scientific community, that current radiation
19 protection standards are protective of public health.
20 Therefore the team concluded that the information
21 provided during the scoping period, regarding
22 strontium 90 releases is not new and significant, and
23 does not change the conclusion in the 1996 GEIS, that
24 the radiological impacts are small.

25 The last issue I would like to discuss

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1 from chapter 4 is that of threatened and endangered
2 species. There are no federally listed aquatic
3 species that occur, currently occur, within the
4 vicinity of Peach Bottom and the Con^owingo pond.

5 There are a number of terrestrial species
6 listed as threatened and endangered that may occur in
7 the range of the Peach Bottom Power Station and the
8 transmission lines.

9 The lower Susquehanna river is an
10 important bald eagle area in Pennsylvania, and one of
11 the areas in the state where bald eagles can be
12 observed year round.

13 There are ten active bald eagle nests near
14 the Conowingo pond, and recent surveys indicate that
15 as many as 10 to 15 eagles over-winter in the vicinity
16 of the Peach Bottom discharge canal, which may be the
17 only part of the river that is not frozen.

18 Bog turtles are known to occur in the
19 vicinity of the transmission line, but a survey
20 performed on the line did not find any suitable
21 habitat of those areas in the corridor.

22 Peregrine falcons are very rare in the
23 Peach Bottom area, although the area is within their
24 range. There is a plant species called the swamp
25 pink, which was not observed during surveys of the

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1 transmission corridor.

2 In other chapters of the GEIS we evaluated
3 the uranium fuel cycle and solid waste management, and
4 decommissioning. All issues for the uranium fuel
5 cycle and solid waste management, as well as
6 decommissioning, are considered category 1.

7 For our analysis we did not find any new
8 or significant information related to these issues,
9 and so we adopted the conclusions in the GEIS.

10 The team evaluated the potential
11 environmental impacts associated with the Peach Bottom
12 power station not continuing operation. The team
13 looked at no-action, new generation from coal-fired,
14 gas-fired, and new nuclear, purchased power,
15 alternative technologies such as wind, solar, and
16 hydropower, and then a combination of different
17 alternatives.

18 For each alternative we looked at, we
19 looked at the same type of issues. For example, we
20 looked at land use, terrestrial ecology, aquatic
21 ecology, socioeconomics that we looked at during the
22 license renewal term.

23 Our preliminary conclusion for the
24 alternatives, and this includes the no-action
25 alternatives, is that these alternatives may have

1 environmental impacts that at least in some impact
2 categories, reach moderate or large significance.

3 Now I would like to turn this back over to
4 Chip, and if there are any questions specifically
5 regarding the radiation issues?

6 FACILITATOR CAMERON: Okay. I think that
7 we might have some follow-ons to Paul's question on
8 radiation and other questions. So perhaps the easiest
9 thing to do is to find out, to ask, to deal with the
10 questions that are on other aspects of the draft
11 environmental impact statement, get those questions in
12 to Bruce, and answers, and then start off with Trish
13 Milligan addressing Paul's question about who the
14 regulations, NRC regulations, are targeted to.

15 So with these non-radiation questions,
16 Judy, and Marcia.

17 MS. JOHNS^u~~RED~~: Judith Johns^u~~red~~. I do want
18 to ask Mr. McDowell to repeat his statement that I
19 jotted down as: There is unanimous agreement in the
20 radiological public health sector that the existing
21 standards are adequately protective of public health.

22 Did I get that correct, based on what
23 you've just said?

24 MR. MCDOWELL: I can read it again.

25 MS. JOHNS^u~~RED~~: Yes, please.

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1 MR. MCDOWELL: I said: Lastly, there is
2 near unanimous consensus in the scientific community.

3 MS. JOHNS^u~~R~~~~E~~~~D~~: Yes, I don't think you said
4 near before, did you? Go ahead, I'm sorry.

5 MR. MCDOWELL: I may have misspoke. There
6 is near unanimous consensus in the scientific
7 community that current radiation protection standards
8 are protective of public health.

9 MS. JOHNS^u~~R~~~~E~~~~D~~: Have you looked at the,
10 what I believe is, the current ICRP reexamination,
11 specifically of tritium?

12 MR. MCDOWELL: This sounds like a
13 radiation question that I think Trish Milligan could
14 better answer.

15 MS. JOHNS^u~~R~~~~E~~~~D~~: I have a second question
16 here. I will come back to my second one if it comes
17 to me.

18 FACILITATOR CAMERON: Marcia, I'm going to
19 come over to you. But let me just make a point. Is
20 that even though Judy Johns^u~~r~~~~e~~~~d~~ had a question about
21 have you considered, and we are going to go to that
22 for answers, that some of these questions implicitly
23 raise comments on the draft environmental impact
24 statement, and we will take them as such, comments to
25 consider in our review.

1 Marcia:

2 MS. MARKS: My question was on
3 consideration of alternatives. I didn't see up there
4 conservation. I mean, take a look at this room right
5 now. If you would use some proper lighting you could
6 reduce the energy needs extremely.

7 And I think this is one of the best ways
8 to reduce energy needs.

9 FACILITATOR CAMERON: Okay, Bruce, how was
10 conservation considered in terms of alternatives?

11 MR. MCDOWELL: As I said at the start of
12 this presentation, this is sort of the highlights of
13 our presentation. But conservation is considered in
14 chapter 8 of the supplemental EIS.

15 FACILITATOR CAMERON: Okay. Another
16 question before we go to the radiation? Yes, and give
17 us your name, please.

18 MS. SMITH: I'm Sandy Smith, a member of
19 Pennsylvania Environmental Network. I don't know, is
20 this the time to ask a question that I have on
21 environmental impact? I just heard you mention it.

22 I'm concerned, I know some people that
23 have lived here all their life, and they have fished
24 here all their life. And starting in the '80s they've
25 noticed carp in this area that are one-eyed, have

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1 strange fins, are different, they don't fight much to
2 be caught.

3 And I'm under the impression, I don't fish
4 or anything, but this is not common for carp. And
5 this seems to be the only area around here that there
6 seems to be some sort of a problem with the carp.

7 Have you, has anyone brought this to your
8 attention, have you done anything about it, has it
9 been identified, what is happening to the carp?

10 FACILITATOR CAMERON: Thank you.

11 MR. MCDOWELL: During our analysis we met
12 with the Fish and Wildlife Service, and with the
13 people that are responsible for the Fishery
14 Restoration Program, where they do sampling, and they
15 inspect, or they monitor the progress of the Shad
16 Restoration Program in the river.

17 And so the people that we talked to I
18 think were fairly familiar with the fishery in the
19 river, and this has not come up. This has not come
20 up. It may be a valid comment, it has not come up in
21 our conversations with the state and local agencies.

22 MS. SMITH: Would you look into it?

23 FACILITATOR CAMERON: Absolutely, Sandy,
24 we will consider that as a comment on this, that will
25 be evaluated.

1 Judy, do you have that second question?

2 MS. JOHNS^u~~RED~~: Yes.

3 FACILITATOR CAMERON: All right.

4 MS. JOHNS^u~~RED~~: It came back to me. So
5 Pennsylvania is in process of the introduction of a
6 substantial package of legislation resulting from our
7 joint state government commission's work this past
8 year, that would foster the use of alternative
9 sources, with particular emphasis on wind development.

10 Now, I do know, understand, that Exelon
11 had been considering a 100 megawatt PB, ^bpebble bed
12 modular plant, and has apparently decided not to do
13 so, reactor.

14 And we will be having, to my understanding
15 from the Penn State Research Center, approximately
16 that amount of additional electricity committed from
17 wind by the end of this year.

18 So my question is, how and to what extent,
19 did you handle the potential for wind development to
20 satisfy future demand, alternatively, from the Peach
21 Bottom plants?

22 MR. MCDOWELL: If you would like to look
23 in chapter 8, that is where it is discussed. Our
24 general approach to looking at alternatives were
25 looking at alternatives that would replace the

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1 capacity of the Peach Bottom plant.

2 And we looked at a report, I can pull out
3 the exact report for you, that analyzed or looked at
4 the potential for wind sites in Pennsylvania. And a
5 lot of the wind sites, as I remember, were in
6 inaccessible locations, or were in environmental
7 sensitive areas.

8 And that limited the number of wind sites,
9 and made some, I think, uneconomic. But due to the
10 fact that wind power is not a very economic, or all
11 the economies, it is not competitive, economically,
12 and the fact that there is not very many locations
13 within Pennsylvania, it didn't look in our analysis,
14 and I will have to go back and show you what we looked
15 at.

16 That the -- I'm sorry, did you want to
17 rephrase that?

18 FACILITATOR CAMERON: Judy, do you have a
19 follow-up?

20 MR. MCDOWELL: That there wasn't a
21 potential for wind power to replace the site.

22 MS. JOHNS^uRED: In your economic analysis
23 of wind were you including in comparison with the
24 operation of the nuclear reactor, waste costs for
25 management and disposal?

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1 MR. MCDOWELL: I think it was all costs.

2 MS. JOHNSRED^u: All costs of wind. And
3 what were the waste costs associated with wind that
4 you considered, please?

5 MR. MCDOWELL: No, I didn't say that there
6 were waste costs of wind. I said we considered all
7 the costs associated with the operation.

8 MS. JOHNSRED^u: So were there costs
9 associated with waste, related to wind generation?

10 MR. MCDOWELL: I think that in any
11 operation there is some waste.

12 MS. JOHNSRED^u: And what would the waste be
13 with respect to wind?

14 MR. MCDOWELL: Well, I think you would
15 have maintenance waste.

16 MS. JOHNSRED^u: And how does that compare,
17 in cost analysis, with the waste generated by the
18 Peach Bottom reactors for the additional 20 years of
19 operation?

20 MR. MCDOWELL: We did not do a comparison
21 of waste streams between wind --

22 MS. JOHNSRED^u: Thank you.

23 MR. MCDOWELL: -- power and nuclear.

24 MS. JOHNSRED^u: Thank you.

25 FACILITATOR CAMERON: And, Judy, again the

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1 implication, I guess, is there is a critique implied
2 there of the analysis. Sandy?

3 MS. SMITH: It kind of took me back. You
4 said there were places that would be good for wind,
5 but it would be inaccessible. I can't imagine any
6 place being inaccessible, when you think of where all
7 the high tension utility wires are going through right
8 now.

9 It almost looks like it would be
10 inaccessible, and yet they are there. What place in
11 Pennsylvania would be inaccessible for wind?

12 MR. MCDOWELL: I'm sorry, I didn't mean it
13 was inaccessible for wind, I thought it was
14 inaccessible for connection to a transmission grid.

15 MS. SMITH: I don't understand if the
16 wires can go there?

17 MR. MCDOWELL: I can show you in the
18 report. It is hard for me to talk without having the
19 report in front of me. But we can talk about this,
20 and I can discuss it with you, off-line.

21 FACILITATOR CAMERON: And, Sandy, is that
22 okay with you if we do it specifically? All right,
23 okay.

24 Let's do a couple more questions, and
25 let's get to the radiation issue. All right, Silver

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1 Cloud, do you have a quick question for us? And then
2 I'm going to ask Bruce if it is okay if Trish shares
3 the microphone, comes up there to answer the
4 questions?

5 MR. MCDOWELL: Sure.

6 FACILITATOR CAMERON: Silver Cloud?

7 MR. SILVER CLOUD: Well, this is actually
8 a statement of fact. I'm glad the lady made mention
9 of something about the fish. But ten years ago my
10 family, we decided not to take any fish, or partake of
11 any fish out of the lake, because we noticed ten years
12 ago that sores and abnormalities on fish in the lake.

13 We love perch, and we love etcetera,
14 etcetera, the various things, the blue gill. So this
15 is not a new thing, it is going on. And, apparently,
16 not enough investigation is going on to really check
17 this out.

18 I can say this because I have seen it with
19 my own eyes, and I do not lie.

20 FACILITATOR CAMERON: Thank you, Silver
21 Cloud. In other words, well not in other words, but
22 another comment on issues to explore.

23 And, Trish, could you come up and at least
24 start with this issue?

25 MS. MILLIGAN: Hi, I'm Trish Milligan, I'm

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1 a certified health physicist with the NRC. I'm also
2 a pharmacist, I'm licensed to practice pharmacy in 13
3 states, including Pennsylvania.

4 I spent a number of years as a nuclear
5 pharmacist, dealing with radioactive drugs for
6 diagnostics, and also for treatment. I've spent a
7 fair number of my professional career working for
8 nuclear reactors.

9 I also worked for myself for a while, it
10 didn't work out too well, and then I came to the NRC.

11 To answer your question here, who we are
12 trying to protect? When we do, we require licensees
13 to file each year an annual effluent report. And in
14 that annual effluent report we expect them to
15 characterize the waste stream, and then we expect them
16 to do dose calculations.

17 In fact we require them to do dose
18 calculations, looking at all of the critical groups.
19 And the critical groups include infants, because we
20 know infants are more than just small adults, they
21 aren't, they have very different metabolisms, they
22 breathe at different rates, they have different dose
23 factors connected with infants.

24 We also have them do calculations that
25 look at children, and then we have them look at

1 calculations for adults. And when they go through and
2 do these calculations, and I've done these for a
3 number of years for myself when I was working for a
4 utility, that was my responsibility, was to do these
5 calculations.

6 You would do the calculations, and then
7 one would float to the surface, if you will, as the
8 critical group. Sometimes it was children, sometimes
9 it was infants, occasionally it was adults, but
10 typically it was children.

11 These doses were reported in the annual
12 effluent reports which are available publicly through
13 the NRC, and I believe the licensee, Peach Bottom can
14 supply them to you, also.

15 And in these reports you look at what
16 these doses are, and they are typically reported in
17 milli rem doses. They are appendix I limits, which
18 are very conservative limits, 5 milli rem whole body,
19 and numbers that are similar to that for organ doses.

20 And these doses are typically in fractions
21 of milli rem doses. So we look at these constantly.
22 Each year that the licensee operates they file with us
23 this report. So we have an ongoing understanding of
24 what the doses are to the whole range of the
25 population. Not just organ doses, but skin dose, and

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1 whole body dose.

2 Does that answer --

3 FACILITATOR CAMERON: Paul, does that
4 answer your question? And if you have a follow-up, if
5 you wouldn't mind using that microphone?

6 MR. GUNTER: Well, obviously this is --
7 I'm Paul Gunter with Nuclear Information Resource
8 Service.

9 Obviously there is an ongoing dialogue
10 here. But just a simple question, in administering
11 therapeutic radiation, do children get the same dose
12 as adults, or is it recognized, in the therapeutical
13 use of radiation, that children have a lower tolerance
14 to radiation?

15 Is that generally correct?

16 MS. MILLIGAN: It depends on what you are
17 treating, and what --

18 MR. GUNTER: I'm just saying generally.

19 MS. MILLIGAN: -- you are doing.

20 MR. GUNTER: Is it acknowledged that
21 children have a lower threshold to radiation than
22 adults?

23 MS. MILLIGAN: You would typically give a
24 child a lower dose because it is a lower body mass.

25 MR. GUNTER: Right.

1 MS. MILLIGAN: But you are talking, in
2 terms of therapy, you are talking extraordinarily high
3 doses that are well above NRC dose limits, well above.

4 MR. GUNTER: My point, though, is that in
5 considering a 20 year license extension, that what our
6 concern is that there is a cumulative value there.
7 And that the children, in our mind, is the target
8 population, the critical population when evaluated the
9 cumulative effect of 20 years additional operation of
10 that reactor.

11 And it is our concern that that be the
12 determining factor for a 20 year license extension.

13 MS. MILLIGAN: And you want us to look
14 specifically at child dose?

15 MR. GUNTER: I think, again, I'm going to
16 try to restate this clearly.

17 In considering a 20 year license
18 extension, and 20 years additional operation, in our
19 view the critical population that would determine that
20 operation is the children. And that the cumulative
21 effect, that there is a cumulative effect of 20 years
22 additional operation, with ongoing routine releases
23 that build up in the environment, that bio-magnify.

24 The focus of our concern, and it should be
25 your concern, is the bio-magnification to the children

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1 in this area. And it is our concern that that is not
2 being addressed in the environmental impact statement.

3 MS. MILLIGAN: When we look at, in the
4 operating reactor space, the dose limits that are set
5 up from our appendix I limits, are very, very small.

6 To give you an example, if you ate one
7 medium sized banana a day, every day for a year, you
8 would come up with approximately a two milli rem dose
9 to your whole body, from eating that banana, from
10 natural radioactivity that is in that banana.

11 Our dose limits, whole body, for appendix
12 I is 5 milli rem. So you double your banana dose a
13 day, and you've got our effluent limits from our
14 plants.

15 So when we look at what our licensees are
16 actually releasing, they are releasing, typically, a
17 tenth to a hundredth of that, in a total year's worth
18 of dose to that particular critical group.

19 So we are looking, very closely, and we
20 watch closely, at what our licensees are allowed to
21 release, and the doses are very, very small. You get,
22 like I said, two bananas a day, and you are at our
23 appendix I limits, and very few of our licensees, I
24 think, have ever approached our appendix I limits.

25 FACILITATOR CAMERON: I think that we do

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1 have a comment there from Paul, is that the analysis
2 in the environmental impact statement, or the analysis
3 or radiation doses should be the critical path item,
4 so to speak, not only the effect of radiation on
5 children, but the cumulative effect over a 20 year
6 period.

7 And Trish is, I take it, that what you are
8 saying is that -- do we look at cumulative effects, in
9 terms of -- it is all factored into the process?

10 MR. SHANBAKY: My name is Mohamed
11 Shanbaky, I'm the branch chief, region one,
12 responsible for the inspection program at NRC, and
13 inspection program at Peach Bottom.

14 As far as cumulative effect, the doses
15 that are being calculated are mostly a committed dose,
16 both national and international expert, they calculate
17 internal doses of radioactive material, based on 50
18 years.

19 And when you talk about committed dose, to
20 a child, it is still a very, very low fraction of what
21 the EPA regulations say as to exposure to minors. So
22 it is still, even if you consider the cumulative, and
23 you talk about committed dose, it is still very low.

24 FACILITATOR CAMERON: Okay, thanks,
25 Mohamed.

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1 Let's take a few more questions on this
2 issue, and then we are going to have to move on to
3 consider severe accidents.

4 This gentleman?

5 MR. AUGUST: My name is Bernard August.
6 My question to you is, I've gotten a bit-jaded about
7 corporate responsibility, and things of this nature,
8 recently, because we have all been affected by it.

9 What guarantee that the information that
10 you are getting from the utilities that run nuclear
11 power plants is accurate?

12 MS. MILLIGAN: Well, we have resident
13 inspectors at the sites that live there. We also have
14 inspection teams that go out and routinely look at all
15 these different parts of the NRC program, of the
16 licensee's program. So they are inspected on a
17 regular basis.

18 FACILITATOR CAMERON: Does anybody from
19 NRC want to supplement---

20 MR. SHANBAKY: I'd like to say one word on
21 this. I have, as we speak right now, have resident
22 inspectors from the NRC, what they are doing, they are
23 walking down systems, they are looking at equipment,
24 and they are looking at maintenance activities.

25 The licensee gives us unfettered access to

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1 all the plant's area, including all the vital
2 equipment in the plant. We look at them, we touch
3 them, feel them, we test them.

4 So it is not just we take the word of the
5 licensee. We trust, but we verify, we go out and
6 verify that the licensee is giving us factual
7 information.

8 FACILITATOR CAMERON: Thanks, Mohamed.
9 Let me see if there is anybody that has a question
10 that we haven't heard from.

11 Let's take Judy, and then Marcia, and then
12 let's go to Bob Palla. And, Trish, I think these may
13 be questions for you, I'm not sure.

14 MS. JOHNSRED: Yes, thank you, Judith
15 Johnsred.

16 It is my understanding that the dose
17 standards have been decided upon in terms of standard
18 man. That is the measure for the setting of the doses
19 that, then, presumably the plant will operate below.

20 And it raises a couple of questions. A
21 geneticist has asked me, repeatedly, how the NRC, in
22 determining dose impacts, deals with not only the
23 child, and not only the fetus, and not only the
24 embryo, but cumulative impact upon the ova that a
25 woman carries through her life, and that are the basis

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1 of, of course, the ultimate embryo, fetus, and child?

2 That is one question. And related to it
3 is the issue of how the NRC will incorporate the
4 additive doses received from deregulated released,
5 recycled, and reused radioactive materials, not only
6 those generated at the plant, and then subsequently
7 released, either as materials or waste, for recycle,
8 but also essentially the other doses, each of them
9 presumably small, that would be received from other
10 sources of recycled radioactive materials.

11 And I'm thinking here, in particular, of
12 the fact that not only the NRC is considering a large
13 expansion of release and recycle but, in fact day
14 before yesterday the comment period closed on Part 71,
15 the transportation harmonization regulations that also
16 involve exemptions.

17 Plus -- well, T-Norm is coming up, I
18 guess, as well. So there are, suddenly, a great many
19 additive sources for exposures. And it is not clear
20 how those are incorporated in your analyses.

21 MS. ~~JOHNSON~~^{MILLIGAN}: Let me answer the first
22 part of your first question.

23 When we established dose limits for the
24 public, which is everyone in the public domain, not an
25 occupational worker, we established doses that are at

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1 a considerably lower level, so 100 milli rem per year,
2 for example, is a dose limit for the public.

3 With that we feel that we have, that we
4 provide good protection to the public from radiation.
5 Now, I referred earlier, and we've talked about the
6 EPA limits, which are 5 milli rem per year, so that is
7 one-twentieth of what our limits are for our general
8 Part 20 limits for radiation to the public.

9 So we are looking at a very small
10 fraction. And if you look at what is actually, what
11 the members of the public receive from our power plant
12 effluents, that is a fraction of a tenth, or a
13 hundredth below that as well.

14 So with that kind of protection you are
15 looking at, it would be extremely low doses, to a
16 woman's ova. Now, if you look at the contribution,
17 from background radiation, from just living here,
18 living in Pennsylvania, where we have a high
19 background, eating naturally radioactive food, you see
20 a dose contribution including from other sources, such
21 as medicine, somewhere around 300 to 400 milli rem per
22 year.

23 I'm sorry? So you look at our limits are
24 very, very small. And you look at other parts of the
25 country that have even higher natural background

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1 radiation limits, and you see adequate protection
2 provided by our licensee limits, from that added
3 incremental dose.

4 FACILITATOR CAMERON: And, Trish, is there
5 anything that you can say on Judy's second question
6 about how, I guess, new sources of radiation are dealt
7 with through the regulations?

8 MS. MILLIGAN: When we look at release of
9 recycled materials, we create a series of scenarios,
10 a whole series of scenarios that look at this recycled
11 metal becomes a fork, for example, or becomes a tire,
12 or table, or pick anything.

13 We look at what would be the exposure,
14 what would be the people, what would be the
15 contributing dose assuming a resident time of, you
16 know, maybe 20 hours a day sitting on top of that
17 table, what would be your dose?

18 We consider all these various exposure
19 scenarios, and then we come up with a dose limit that
20 says, at this point this amount of material could,
21 potentially, be released.

22 But I don't work on the materials side of
23 the house, and I can't talk to all the regulations and
24 what they are doing, I strictly work on the reactor
25 side. And the materials side has put a lot of work

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1 into that, and I don't know all the regulations.

2 What we could do would be to direct you to
3 the appropriate people in the materials side that
4 could answer your questions much better than I can.

5 FACILITATOR CAMERON: Thanks, Trish and
6 thanks, Judy. Let's take one last question from
7 Marcia and let's bring Bob Palla up to talk about
8 severe accident mitigation alternatives.

9 MS. MARKS: I think that Judy asked my
10 first question, which was exposure to the pregnant
11 woman, and to the ova over a woman's lifetime. And
12 she asked that.

13 And most of the public isn't aware, Dr.
14 Ellis Stuart just died, and she was able to prove
15 transgenerational effects of radiation to the pregnant
16 woman, onto the children.

17 My question, though, is when you are -- on
18 your measurements, you said you measure the effluent.
19 And if I read this correctly, in the environmental
20 impact statement, you measure the strontium 89 only
21 every four months.

22 If the half life is only 50 days, how in
23 the world are you finding it? How often do you
24 measure this effluent? You talked about a yearly
25 report.

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1 MS. ~~JOHNSON~~: What you are asking is how
2 often do the licensee's measure their effluent stream?
3 The licensee's monitor their effluent stream on a
4 regular basis, regular being daily, minute by minute,
5 hour by hour, day by day.

6 They have a good handle on what their
7 water chemistry is, and what their effluent stream is.

8 MS. MARKS: Then what I read in the report
9 was not --

10 MS. ~~JOHNSON~~: No, the numbers are
11 tabulated quarterly. All the effluents and the water
12 chemistry is done on a daily basis.

13 FACILITATOR CAMERON: Okay. Thank you,
14 Marcia, thank you Trish, thanks Bruce. Let's bring
15 Bob Palla up who is going to talk about the section of
16 the draft environmental impact statement that deals
17 with severe accident mitigation alternatives. Bob?

18 We are going to go on. Let's hold that,
19 Alan, and we will go on with this right now.

20 MR. PALLA: Good afternoon. My name is
21 Bob Palla, and I'm with the probabilistic safety
22 assessment branch of NRC.

23 I will be discussing the severe accident
24 mitigation alternative analysis done for Peach Bottom,
25 also referred to as the SAMA analysis.

1 The license renewal rule requires a
2 licensee, a license renewal applicant to consider
3 alternatives to mitigate severe accidents. If the
4 Staff has not previously evaluated SAMAs for that
5 plant.

6 Now, since SAMAs had not been previously
7 assessed for Peach Bottom, they were assessed as part
8 of the environmental review. The Staff's review of
9 SAMAs is described in section 5.2 of the environmental
10 impact statement supplement for Peach Bottom, and is
11 the subject of my presentation.

12 The purpose of the SAMA evaluation is to
13 ensure that plant changes with the potential to
14 substantially improve severe accident safety
15 performance are identified and evaluated.

16 The potential plant improvements that we
17 considered include hardware modifications, procedure
18 changes, training program improvements, changes of
19 that sort.

20 The scope of the SAMAs includes SAMAs that
21 may either prevent core damage, which we termed
22 preventive SAMAs, or improve containment performance,
23 given that a core damage event were to occur. And we
24 term those SAMAs mitigative SAMAs.

25 The SAMA evaluation process is a multi-

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1 step process, and I'm going to briefly describe the
2 major steps, so that you have a sense as to how this
3 analysis was conducted.

4 The first step is to characterize the
5 overall plant risk and the leading contributors to
6 risk. This involves extensive use of the plant-
7 specific probabilistic risk assessment study, also
8 known as the PRA.

9 The PRA effectively identifies the
10 different combinations of system failures, or human
11 errors, that would be necessary for an accident to
12 proceed to core damage, or to containment failure.

13 The second step is to identify potential
14 improvements that can further reduce risk. The
15 information from the PRA, such as dominant accident
16 sequences, is used to help identify potential plant
17 improvements that would have the greatest impact in
18 reducing risk.

19 Improvements identified in other NRC and
20 industry studies are also considered. This includes
21 the severe accident mitigation design alternative
22 evaluations performed for the Limerick plant, and the
23 Hatch plants, both of which are boiling water reactors
24 similar to the Peach Bottom plant.

25 We also looked at improvements that were

1 identified in PRAs for other plants. The next step
2 would be to quantify the risk reduction potential and
3 the implementation costs for each improvement.

4 The risk reduction and implementation
5 costs are, typically, estimated in a bounding fashion.
6 The risk reduction is generally overestimated by
7 assuming that the plant improvement is completely
8 effective in eliminating the accident sequences that
9 it is intended to address.

10 And the implementation costs are,
11 generally, underestimated by neglecting certain cost
12 factors, such as maintenance costs, and surveillance
13 cost. In conjunction this leads one to a more
14 conservative assessment, which would tend to include
15 more of the potential SAMAs for further evaluation.

16 The risk reduction and the cost estimates
17 are used in the final step to determine whether
18 implementation of any of the improvements can be
19 justified.

20 And in determining whether an improvement
21 is justified, we looked at three factors. The first
22 is whether the improvement is cost beneficial. That
23 is, are the estimated benefits greater than the
24 estimated implementation costs?

25 The second factor is whether the

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1 improvement provides a significant reduction in total
2 risk. For example, does it eliminate a sequence, or
3 a containment failure mode that contributes a large
4 fraction of the plant risk?

5 And the third factor is to look at whether
6 the risk reduction is associated with aging effects
7 during the period of extended operation.

8 The preliminary results of the SAMA
9 evaluation are summarized on this slide. 204
10 candidate improvements were identified for Peach
11 Bottom based on review of the plant-specific PRA,
12 relevant industry and NRC studies on severe accidents,
13 and SAMA analyses performed for other plants.

14 So 174 SAMAs were eliminated during an
15 initial qualitative screening. The factors considered
16 during this initial screening included whether the
17 SAMA has already been implemented at Peach Bottom, is
18 not applicable to Peach Bottom due to design
19 differences; addresses sequences or failure modes that
20 are not risk significant at Peach Bottom, or has an
21 expected implementation cost that is far in excess of
22 the expected risk reduction benefit.

23 The cost benefit analysis was performed
24 for the remaining 30 SAMAs. The group of 30 was
25 further reduced to 5 candidate SAMAs based on

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1 quantitative comparisons of implementation costs, with
2 a maximum benefit, if all of the risk were eliminated.

3 And plant-specific risk, or operational
4 considerations, were also factored in to this final
5 screening. A more detailed conceptual design and cost
6 estimate was developed for each of the five remaining
7 SAMAs.

8 None of these five SAMAs were found to be
9 cost beneficial when evaluated in accordance with NRC
10 guidance for performing regulatory analyses. And
11 based on our review of Exelon SAMA analysis, we
12 conclude that none of the SAMAs evaluated are cost
13 beneficial.

14 In conclusion we believe that no
15 additional plant improvements to further mitigate
16 severe accidents are required at Peach Bottom Units 2
17 and 3.

18 I will take any questions.

19 FACILITATOR CAMERON: Thank you very much.

20 Yes, sir?

21 MR. AUGUST: In light of the fact that --
22 Bernard August -- that this plant here gets its water
23 from the river, was any consideration at all given
24 just in case a natural disaster, like the dam
25 breaking, or anything like that, taken into

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1 consideration during this report?

2 MR. PALLA: Dam break type of events, and
3 floods, external floods, these type of events are
4 considered in what was -- we term it the individual
5 plant examination for external events.

6 It is a type of a risk study that was
7 done. These studies are not strictly quantitative
8 type analysis, they are more of a -- it is an
9 engineering assessment, really.

10 But the results of those studies were
11 submitted to the Staff, and reviewed as part of our
12 review of the individual plant examination. They were
13 found to be much lower in risk than the risk from
14 internally initiated events.

15 So they did not play a role in this
16 analysis. The risks that we are trying to reduce here
17 is largely driven by internally initiated events,
18 which did not include those types of events.

19 FACILITATOR CAMERON: Okay. Mohamed,
20 before we go to the gentleman behind you, do you want
21 to make a clarification?

22 MR. SHANBAKY: A quick clarification on
23 this. That was assessed in the original plant design.
24 The plant have emergency cooling towers. Emergency
25 cooling towers would provide adequate cooling for all

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1 necessary equipment shut down.

2 The water supply is on hand, at the base
3 of the tower you have, I believe, 3.7 million gallons
4 of water that you would be using, it would give you
5 seven days of water use to cool down the plant.

6 So that was assessed, and the equipment is
7 operational, and on-site.

8 FACILITATOR CAMERON: Thank you, Mohamed.
9 Let's go to this gentleman right back here.

10 MR. EGBERT: Lawrence Egbert from
11 Baltimore. You eliminated 174 candidate improvement
12 possibilities, and then you subsequently eliminated 25
13 of the remaining 30.

14 What was the difference between the way
15 you eliminated them?

16 MR. PALLA: Well, it was a sequential
17 process. It began, the large number was the result of
18 basically throwing out a large net, trying to look at
19 analysis that were done at several different plants,
20 and effectively including those as candidate SAMAs.

21 And then so you start with a large number,
22 many of which you know at the outset, probably aren't
23 going to pass an initial screening, because in some
24 cases an improvement might really have been evaluated
25 at another plant, which is a pressurized water

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1 reactor.

2 So it may not be applicable, at all, in
3 concept to a boiling water reactor, such as Peach
4 Bottom. So it is -- we actually outlined it fairly
5 clearly, I think, in our report what that sequential
6 process was.

7 But, as I mentioned earlier, the process
8 was to eliminate things that had already been
9 implemented. Sometimes you might have two different
10 alternatives that by and large do the same thing, so
11 you can combine them into a single alternative that
12 you can consider further.

13 So there is some collapsing there, as
14 well. Some of these fixes may address sequences that
15 don't have any significant contribution to the risk
16 profile, this would be another reason.

17 And then some are so clearly resource
18 intensive and expensive that you can tell that even if
19 you eliminated all of the risk at the plant that this
20 would not be cost beneficial.

21 So there is some confusion, it wasn't a
22 very straightforward process, it was a multi-phased
23 process that I think is explained in the report. But
24 I could talk to you more about it, later, if you have
25 some specific questions.

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1 FACILITATOR CAMERON: Okay, they very
2 much, Bob.

3 MR. PALLA: We look at that process to see
4 that it is systematic, and logical, and that the
5 criteria used to screen these things is reasonable.

6 FACILITATOR CAMERON: Okay. We have one
7 more question for you, and then we are going to get to
8 Duke Wheeler, again, for the conclusion, so that we
9 can hear from everybody that has comments.

10 Yes, sir?

11 MR. MCCONNELL: Sam McConnell, and I'm a
12 Peach Bottom resident.

13 What is the agreement, or how does NRC
14 operate with FERC, the Federal Energy Regulatory
15 Commission, in regards to nuclear accidents, who takes
16 priority, the requirement for electricity, or the
17 nuclear accident?

18 FACILITATOR CAMERON: Do we have -- who
19 wants to address that specific question, perhaps,
20 within the general context of emergency planning? I
21 think we will go to John Tappert for that one.

22 And, John, you heard the specific question
23 that the gentleman had?

24 MR. TAPPERT: Yes. I mean, obviously, the
25 mandate of the NRC is the health and safety of the

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1 public. So if there were an incident, or something,
2 at the facility the first mandate of the Agency is the
3 safety of the plant.

4 So energy concerns really aren't part of
5 that picture.

6 FACILITATOR CAMERON: Do you want to
7 comment on --

8 MR. GUNTER: I just wanted to -- Paul
9 Gunter, Nuclear Information Resource Service.

10 The term that the NRC uses is called as
11 low as reasonably achievable, ALARA. Now, ALARA is
12 used a lot in determining cost beneficial analyses for
13 safety.

14 And I'm sure you worked ALARA into the
15 license extension. But one of the principles of
16 ALARA, one of the principal considerations of ALARA is
17 economics. So -- and it is stated right there in the
18 Code of Federal Regulations.

19 So when you talk about balancing dose, for
20 example, against continued operation, economics does
21 come into play through the ALARA principle.

22 FACILITATOR CAMERON: And, Paul, that is
23 a good comment. And I think that maybe it would give
24 Bob an opportunity to, when you talk about doing cost
25 benefit on whether a particular SAMA should be

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1 implemented, you are talking about based on the
2 assumption that the NRC regulations are being met.

3 All of these things are over and above
4 what is necessary to provide adequate protection to
5 public health and safety?

6 MR. PALLA: This is -- economics is deeply
7 ingrained in this whole process. The SAMA evaluation
8 is essentially looking at ways that risk can be
9 reduced, these each have a cost. And then they would
10 result in a reduction in core damage frequency, or
11 person rem at the site, and the surroundings.

12 And these are all put in terms of dollars
13 and compared. You are comparing cost of
14 implementation against costs that are associated with,
15 you know, the benefits of reducing, or eliminating the
16 accidents.

17 So, yes, economics is really what this is.

18 FACILITATOR CAMERON: Okay, thank you,
19 Bob. We are going to go to Duke Wheeler for summing
20 up for us. And I should remind everybody, there is
21 ice tea, coffee back there. We are not taking a
22 break, so please help yourself, it is in the back of
23 the room.

24 And, Duke, can you finish this up for us,
25 and then we are going to go to our speakers.

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1 MR. WHEELER: Yes, I can. In conclusion
2 what we determined in our draft environmental impact
3 statement for Peach Bottom was that for all the impact
4 areas, the impacts of the proposed license renewal are
5 small.

6 As we were looking at alternatives we
7 noted that for various impact areas, of the various
8 alternatives, the range was all the way from small to
9 large impact. And our bottom line recommendation, at
10 this point, is that any adverse environmental impacts
11 of license renewal for Peach Bottom units 2 and 3, are
12 not so great that preserving the license renewal
13 option is unreasonable.

14 Now, where to from here? As I noted
15 earlier we did issue the draft environmental impact
16 statement in June. We have a 75 day comment period,
17 currently running; beginning on July the 5th, and
18 ending on September the 17th.

19 And I expect to publish the final
20 environmental impact statement February of 2003. Now,
21 as points of contact with the NRC, I would just like
22 to leave you with my name and phone number, as the one
23 point of contact.

24 And if you have other interests, outside
25 the scope of our environmental review, where other

1 parts of the NRC should be brought into play, for
2 example NMSS, another part of the house that Trish
3 Milligan referred to, go ahead and give me a call, and
4 I will contact the right people with the NRC, and get
5 you to, in a dialogue with them.

6 There is a toll free telephone number for
7 me on the slide. And I've also placed drafts of our
8 environmental impact statement as reference documents
9 in three local libraries that might help you access
10 the document.

11 If you go up to the Collinsville Public
12 Library, up the road in Brogue, if you talk with
13 Martha Gunder, or Essie^y Day, they will be happy to
14 steer you toward a couple of the copies that we've
15 left with them as references for you.

16 And also the Quarryville Public Library,
17 the director, Katrina Anderson, would be happy to
18 assist you there, in taking you to just where these
19 documents are available.

20 And at the Whiteford Branch Library, just
21 down the road in Whiteford, if you talk to George
22 Mine, he then can help you there in Whiteford, to find
23 the environmental impact statement, take a look at it.

24 I didn't have sufficient numbers to give
25 them a large quantity, so these are reference

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1 documents for them. But this is a draft document, it
2 is available. If you want a copy give me a call, give
3 me your mailing address, and I will send you a copy.

4 Now, the draft can also be viewed, and
5 downloaded, via the internet, at the internet address
6 that is on the slide. I'm not going to go through and
7 read the whole thing for you, but it is there on the
8 handouts that you received when you came in.

9 Other ways, excuse me, ways to provide us
10 comments. There are a couple of different ways. One
11 is by mail to the chief of our rules and directives
12 branch at the address shown on the slide.

13 Now, given our location here, it is not
14 completely unreasonable that somebody may wish to come
15 down to our office in person, since we are located in
16 Rockville, and provide us comments. We are located on
17 Rockville Pike, approximately halfway between downtown
18 Rockville, and the beltway, if you are familiar with
19 the area.

20 You may also email your comments. I found
21 this to be a popular way. And I have established an
22 email address, with the NRC, for the express purpose
23 of receiving your comments. This is
24 peachbottomeis@nrc.gov.

25 And if you access the draft environmental

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1 impact statement online you will also find a link, at
2 that website, to a comment form, and you may click on
3 that, and follow the procedure that is laid out in
4 front of you.

5 And that about concludes my remarks. And
6 what I would like to do is turn the mike back over to
7 Chip, who will basically open the mike. Chip?

8 FACILITATOR CAMERON: Thank you very much.
9 We are going to go right into our public comment
10 portion of the program.

11 And our first speaker is Joe Mangano.
12 And, Joe, I hope I'm pronouncing your name right. But
13 correct that if I didn't. And Joe is with the
14 Radiation Public Health Project. And he has come down
15 from New York City.

16 And because of that I have to ask
17 everybody to try to be brief, and I talked about the
18 five to seven minute ground rule, because we do have
19 a lot of speakers, and we do want to hear all of you.

20 Because Joe has come down from New York
21 City, national group, we are going to give him just a
22 couple minutes leeway, so he can make his
23 presentation.

24 And, Joe, if you would come up? And I'm
25 going to move this out in the center, and you can

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1 refer to it as you want, okay?

2 MR. MANGANO: Good afternoon, everyone.
3 Again, I'm Joseph Mangano, I'm the National
4 Coordinator for the Radiation and Public Health
5 Project in New York City.

6 We are a group of professional
7 researchers. In the last eight years we have
8 published 17 articles in medical journals, and written
9 five books about the health effects of radiation
10 exposure.

11 My comments today will be about, will be
12 addressed to the environmental impact statement draft.
13 And my -- the nature of my comment will be that, in
14 essence, this is a very limited document to make any
15 sort of decision on whether to extend the license of
16 this plant for 20 years.

17 I will break my comments into three, very
18 briefly. First of all, major meltdowns and accidents;
19 number two, nuclear waste; number three, routine
20 emissions and cancers.

21 First of all, in terms of accidents, we've
22 known for a long time that any kind of a major core
23 meltdown in a nuclear plant like Peach Bottom would be
24 the worse environmental catastrophe in the United
25 States history.

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1 Twenty years ago the federal government
2 did a study and showed that if either one of the cores
3 of the Peach Bottom reactors had a full meltdown,
4 72,000 people would die, 45,000 would suffer acute
5 radiation poisoning, and 37,000 others would develop
6 cancers.

7 Now, remember, this is a minimum estimate,
8 because if both reactors had meltdowns you could
9 double that. This was done 20 years ago, the
10 population has grown since, it only considers the area
11 within 30 miles of the plants, and it ignores the
12 stored fuel, the radioactive waste, which consists of
13 much, much more radiation than is in the core.

14 In fact, there is hundreds of Hiroshima
15 bombs worth of radiation in there. The EIS ignores
16 this. It does not ignore the issue of an accident,
17 but it ignores two new threats that we have here,
18 beyond when the plant was opened.

19 First of all, September 11th changed
20 everything. We now have this very new, and very
21 clear, and very serious threat of a terrorist attack
22 towards a nuclear plant, which certainly calls out for
23 a new study, and consideration of safety factors.

24 Number two, we are not talking about a
25 plant that is just about to open. We are talking

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1 about a nuclear plant that is going to be operating
2 from age 40 to 60.

3 Now, so far the oldest reactor has been
4 Big Rock Point in Michigan. It lasted 34 years, it is
5 now closed, okay? We don't know what a 40 or 50, or
6 60 year nuclear plant will be like; will the plants
7 wear out mechanically?

8 We just observed, recently, that the
9 Davis-Besse reactor, in Toledo, Ohio, because of
10 corrosion from the cooling water, a six inch steel
11 lid, on top of the plant, was corroded down to 3/8ths
12 of an inch of steel that was bent, and was found not
13 by a routine inspection, but just by accident.

14 So it is clear here that we need to see
15 more in terms of what would happen in terms of an
16 aging plant, and in terms of a possible accident.

17 Number two is nuclear waste. The spent
18 fuel pools that exist at Peach Bottom, and other
19 reactors, were thought of as a temporary means of
20 storing these radioactive fuel rods. They are still
21 temporary, okay? Only they are filling up now.

22 Almost 30 years later the fuel pools here
23 at Peach Bottom are almost full. In fact they are
24 putting some into dry cask storage, and the issue of
25 Yucca Mountain, Nevada, being a permanent site, is

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1 moving along but it is still up in the air. It will
2 be at least eight years before any transfers are to be
3 made from there.

4 That goes unaddressed here, as well. And
5 the existence of this fuel, again, presents a threat
6 to the public's health.

7 Now, in terms of routine emissions, the
8 position of the NRC, traditionally, has been that
9 emissions will be monitored, the environmental levels
10 of radiation will be monitored. If they fall within
11 the federal safe permissible limits, therefore they
12 are declared to be harmless.

13 Our group believes that this is a
14 presumptuous attitude to take. You don't know. For
15 example, look at what happened at the World Trade
16 Center. The Trade Center was attacked, and numerous
17 chemicals, such as silicon, and asbestos, were put
18 into the atmosphere at higher levels.

19 Well, the EPA went in, did a study and
20 said, yes, the levels are higher, but they are within
21 safe limits, therefore they are harmless. At the same
22 time this is happening about a quarter of the workers
23 were suffering from some sort of respiratory ailment.

24 Three percent of them so badly that they
25 are on the verge of having to retire. So we think the

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1 same should occur here in terms of nuclear reactors.
2 And to do that you need two items.

3 Number one, you must look at the disease
4 rates, and particularly at the cancer rates in the
5 local area. Our group spends lots and lots of time
6 doing that. I will just point a few out here in the
7 Peach Bottom area.

8 In Lancaster and York counties, which
9 flank the reactor, in the years before, the 25 years
10 before the plant opened, childhood cancer deaths in
11 the two counties were seven percent below the U.S.
12 rate.

13 Since 1987 the rate is 31 percent above
14 the U.S. average, okay? Something happened that
15 turned a low childhood cancer area into a high
16 childhood cancer area. Is it radioactive, is it some
17 sort of other factor that must be looked at?

18 Among adult cancers in Lancaster, York,
19 and Chester county, the three closest counties, the
20 rate since '87, the rate of all cancers is 9 percent
21 above the U.S. Breast cancer is 26 percent above the
22 U.S. Thyroid cancer, which is very sensitive to
23 radioactive iodine, 60 percent above.

24 Again, these are questions that remain
25 unanswered. Whether or not radioactive plays a role,

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1 or not, has to be determined. And the way to
2 determine that is to look at the amount of radioactive
3 in the body.

4 It is one thing to measure emissions, it
5 is one thing to measure how much is in the air, and
6 the water, and the grass. But the real question is,
7 how much gets into the body? This is not something
8 that we invented, this was done in St. Louis, years
9 ago, to measure how much bomb test fallout went into
10 people's bodies.

11 And it has been done in the 1990s in four
12 different countries, in Greece, United Kingdom, former
13 West Germany, and in the south Ukraine to measure how
14 much is coming out from nuclear reactors like
15 Chernobyl and Sellafield in England.

16 And in each case they looked at baby teeth
17 and the amount of radioactive strontium 90, which only
18 comes from atomic bombs and nuclear reactors. We are
19 doing a study right now. I've collected almost 4,000
20 teeth.

21 Unfortunately here in Pennsylvania,
22 southeast Pennsylvania, we only have 22 teeth, we need
23 many more. We've collected many more, but are still
24 in our processing them.

25 So far, based on just these 22 teeth, the

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1 average level of strontium 90 is 68 percent higher
2 than the other six states that we've collected teeth
3 from. That is Pennsylvania, Connecticut, New York,
4 New Jersey, Florida, and California.

5 There is a reason for this. The EIS spent
6 nine pages discussing, and challenging our baby teeth
7 study, making the claim that this strontium 90 was all
8 left over from the bomb test in the '50s and '60s.

9 Well, back in the '50s and '60s the
10 strontium 90 levels in teeth were pretty much average,
11 compared to the rest of the country, now they are much
12 higher. I don't think it is because of old bomb
13 testing.

14 And the other thing we found, so far, in
15 southeast Pennsylvania and elsewhere, the children
16 born in the 1990s have higher levels of strontium 90
17 than do those born in the '80s, they are going up
18 slightly in Pennsylvania up 12 percent.

19 This cannot be due to the old bomb test
20 fallout just decaying, it has to be due to a current
21 source of strontium 90 which is, can only be nuclear
22 reactors.

23 My time is almost up, here. Again, low
24 levels, we are not talking about high levels of
25 radioactive, here. This is not Hiroshima here, this

1 is not Chernobyl, these are low levels of radiation.

2 But, again, before we make the conclusion
3 that it is harmless, or harmful, we must do these
4 studies. And we've been wrong in the past, before.
5 Years, until the '50s doctors did pelvic x-rays on
6 pregnant women saying that these x-rays were too low
7 a dose to be harmful, until they found that the risk
8 of the child getting cancer doubled.

9 For many years the Government said that
10 bomb test fallout from the Nevada tests were harmless,
11 even if it was getting in the milk, and the water, and
12 the food. Finally in 1997 a study was done, by the
13 federal government, showing that up to 212,000
14 americans developed just thyroid cancer from these
15 bomb tests.

16 So this is a learning process, this is a
17 relatively new technology, we are learning things, and
18 we should engage in the same type of process with
19 nuclear reactors.

20 So in conclusion I would highly recommend
21 that no decision be made, by the NRC, to extend the
22 license of this plant until a much more thorough
23 assessment of environmental health threats are made.
24 Thank you.

25 FACILITATOR CAMERON: And, Joe, thank you.

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1 And if we could, I don't know if it is possible to get
2 a reduction of that map, an eight and a half by eleven
3 that we could put on the transcript? We can try to
4 work with that.

5 But since we have you here, live so to
6 speak, and to make -- I guess I shouldn't say so to
7 speak. Since we have an opportunity to talk to you,
8 let me put it that way, I'm sorry.

9 Would you mind if there is any questions
10 that the NRC staff has to enable them to better
11 evaluate this? And I don't want to get into a debate
12 on this, okay? in terms of challenging. Could they
13 ask you any questions that they have?

14 MR. MANGANO: Go right ahead.

15 FACILITATOR CAMERON: Is there any
16 questions related to our evaluation? Trish?

17 MS. MILLIGAN: Yes, I just have two quick
18 questions. NRC is always interested in new
19 information, and we are constantly evaluating
20 information on a regular basis.

21 On your report, there, if you could hold
22 that up for me real quick? It says, right up here,
23 strontium 90 concentrations in baby teeth measured at
24 birth.

25 My first question is, how do you measure

1 baby teeth at birth? Because that would be very new
2 for us, to understand how you do that.

3 MR. MANGANO: Sure. The child aged 7, or
4 whatever, loses a tooth, donates it to us, we measure
5 it, and we --

6 MS. MILLIGAN: Back calculate?

7 MR. MANGANO: Based on the half life of 29
8 years of strontium 90, extrapolate that level back.
9 Most of the uptake is in the fetal, in the early --

10 MS. MILLIGAN: Right, so this is actually
11 back calculation?

12 MR. MANGANO: So it is pretty close, that
13 is what they did in St. Louis years ago.

14 MS. MILLIGAN: I just wanted to make sure
15 that was clear. And the second thing is, could you
16 please share with us your data on these increased
17 cancer rates, so that we could see the data that you
18 are looking at?

19 MR. MANGANO: Sure, I brought copies with
20 me.

21 MS. MILLIGAN: Terrific, that would be
22 great.

23 MR. MANGANO: Where I got them from, and
24 all that, because I thought someone could use it.

25 MS. MILLIGAN: Thank you very much.

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1 FACILITATOR CAMERON: Thank you very much,
2 Joe. And we would be interested in a copy, a small
3 copy, and I'm sure that there are members of the
4 public that might be interested in looking at a copy
5 of that, too.

6 Thank you very much, Joe. You had a
7 question on, for Joe?

8 MR. PALLA: Yes.

9 FACILITATOR CAMERON: Joe, we have one
10 more question from the NRC staff.

11 MR. PALLA: I had a question, at the
12 beginning of your presentation you had some statistics
13 about fatalities from major core melt events. And my
14 question is, have you looked at, or are aware of more
15 recent studies than the 30 or 40 year old? I forget
16 exactly what -- okay.

17 Have you looked at anything more recent
18 than that, as far as the plant specific analyses that
19 have been done for Peach Bottom, for example? Because
20 the results from those studies are considerably lower
21 than the numbers that you had cited.

22 MR. MANGANO: To my knowledge that study,
23 there has been one more subsequent study done after
24 that, what they call the crack 2 report, in 1982 by
25 Sandia National Labs.

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1 It was done in 1989, and it makes updated
2 judgements on what would happen during an accident,
3 but it does not give any specific numbers yet. So at
4 this point that is all we have to go on.

5 It is probably most useful not to make an
6 exact judgement on exactly how many people would be
7 injured, but just to give people an idea that, yes,
8 hundreds of thousands of people would be involved,
9 would either become ill or die.

10 FACILITATOR CAMERON: Okay, thank you and
11 thanks, Bob.

12 We are going to go on to our next
13 speakers. And our next three speakers. And thank you
14 again, Joe. Silver CLOUD Washburn. Silver Cloud,
15 would you come up and please talk to us?

16 And then we will go to Alan Nelson, and
17 Dr. Judy Johns^u~~rd~~.

18 MR. WASHBURN: Firstly I would like to
19 start off by saying, to the person, the omnipotent,
20 the it that made it possible for me to be here today,
21 grandfather, Jehova.

22 And I thank grandfather that everyone who
23 is here is here, because they are concerned about this
24 issue. My major concern with this issue, and my
25 prayer is simply this.

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1 Has anyone, from the inception of the
2 nuclear energy program, whether it be reactors or
3 bombs, given any thought to what would happen seven
4 generations in the future?

5 I would postulate to you, no. Because
6 your opinion doesn't think that way. But I want you
7 to know that the Native-American thinks about things
8 in these terms. Not all of us, because there are
9 rotten apples in our barrel, too, undoubtedly.

10 But the big concern that I have here is
11 the future generations. We are talking 250,000 years
12 of financial indentured servitude. Because the Exelon
13 Corporation is not going to pay for the maintenance
14 and the overhead costs of this facility for 500 years,
15 1,000 years, and so on. Who is going to do it?

16 It is our children, and our grandchildren,
17 and our great-grandchildren, and countless future
18 generations. Exelon Corporation is only interested in
19 what they can extract financially out of this deal.

20 I don't know if they are in bed with
21 Enron, but I tell you what, Exelon, when they are done
22 with it, probably already has secret plans to simply
23 go bankrupt. And when they do, who pays the bill?

24 Not only do NRC's progeny, and mine, and
25 everyone else's, but it is passed down, and it is more

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1 than a lifetime sentence of debt, and burden. When
2 you look at this debt and burden what is going to
3 happen in the future, when the people decide we have
4 had enough, we are not paying anymore.

5 Well, then the deterioration will begin at
6 all of these plants. I don't know how many there are,
7 exactly, 100 and some in the United States. But you
8 know it doesn't make any sense to me, because what has
9 happened here, the European came to these shores, and
10 they gave the Native-American its bullets and disease.

11 And now, since we are all here, and I
12 accept you, I'm not angry with anyone, but now they
13 are going to give all of us their toxicological waste.
14 And no provision or thought was given to this at the
15 inception of these plans, none.

16 I hope you are thinking about it,
17 gentlemen. I hope the people hearing my voice are
18 thinking about this. Because this stuff must be
19 contained. And Yucca Mountain, really, may not be the
20 solution.

21 I would pray to Grandfather that it is,
22 and that it has been well thought out. But it seems
23 funny to me, why didn't they put it in the middle of
24 New York City? Why did they have to put it on indian
25 land?

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1 Think about it, we are constantly
2 punished. Well, you know something? There is not
3 going to be enough trees left on the planet earth to
4 print the money that it is going to take.

5 The word is a guguplex of dollars, it is
6 not there. And I just beg you, I will tell you this,
7 I will give you the shirt off my back, I will give you
8 everything I own, to shut this plant down. I would
9 stand here and allow you to take my life because I
10 love all people so much.

11 Shut it down. I would walk out of here
12 naked, I would be a pauper and a vagabond, I would be
13 happy to do this. That is my contribution to the
14 people. You have to understand that this is
15 foolishness.

16 Whatever happened, in the name of heaven,
17 to common sense? You can go to college and get all
18 the education you want from the books. But you all
19 fail to realize, and most people do, and even I, until
20 I was in my 40s, realized that common sense is the
21 higher level of intelligence.

22 And once you get in touch with the creator
23 of all things, and ask to be shown, through these
24 words given to me by a sacred spirit, isha del
25 talalatacna (Phonetic) open my eyes that I may see.

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1 That voice told me, use these words
2 wisely. Use them where you see a need to do good. So
3 to you people, you wonderful people who I love,
4 Gonkieue (Phonetic) in my tongue that means I love
5 you.

6 Isha delta lalatacna (Phonetic) open my
7 eyes that I may see. This is my prayer for everyone
8 in this room. Please shut this place down, let us
9 begin to bear this burden, and figure a way out of it.
10 Thank you.

11 (Applause.)

12 FACILITATOR CAMERON: Thank you very much,
13 Silver Cloud. And I would not want to follow Silver
14 Cloud on a presentation, because he is very
15 impressive.

16 Alan Nelson will follow him, though.

17 MR. NELSON: Well, how do you pick your
18 spots?

19 Good afternoon. License renewal is the
20 best option for Peach Bottom. My name is Alan Nelson,
21 I'm a senior project manager at the Nuclear Energy
22 Institute. I'm pleased to have the opportunity to
23 join this discussion today, among interested citizens
24 of Pennsylvania, and Maryland, state and local
25 officials, NRC staff, and other parties on license

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1 renewal for Peach Bottom.

2 By way of background, the Nuclear Energy
3 Institute coordinates energy policy for the U.S.
4 energy companies that own a nuclear power plant. The
5 institute also represents industry suppliers, fuel
6 cycle companies, universities, and colleges, and other
7 organizations involved in the beneficial uses of
8 nuclear technologies such as medicine, agriculture,
9 and food safety and space exploration.

10 Nuclear energy provides electricity for
11 one of every five homes and businesses in America.
12 Here in Pennsylvania electricity customers get their
13 electric power from nine nuclear reactors, including
14 Peach Bottom, as well as Limerick, TMI, Susquehanna,
15 and Beaver Valley.

16 The purpose of today's meeting is to
17 discuss environmental issues related to the license
18 renewal application for Peach Bottom that Exelon has
19 submitted to the NRC back in July 2nd, 2001.

20 Exelon is the tenth utility to seek
21 nuclear plant license renewal. In March of 2000 the
22 NRC, for the first time, approved a 20 year license
23 extension for two reactors at the Calvert Cliffs
24 Nuclear power plant on the shores of the Chesapeake
25 Bay, in Maryland.

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1 That approval was a landmark in the
2 industry and evidence of tremendous long term energy
3 and environmental benefits of nuclear power. To date
4 ten reactors have received 20 year license extensions
5 from the NRC, and the Agency is reviewing requests
6 from 14 others, including Peach Bottom.

7 More than half of all 103 U.S. reactors
8 are expected to submit applications over the next
9 several years. Many more are expected to join them.
10 Renewing nuclear power plant licenses for an
11 additional 20 years is economical compared to the
12 development of alternative energy resources.

13 As both the Nuclear Regulatory Commission
14 and stakeholders have become more familiar with the
15 process, we expect the license renewal process to
16 become even more efficient.

17 Moreover there is a growing recognition,
18 among the public and policy makers, both in the United
19 States, and internationally, that we must maintain the
20 clean air and other environmental benefits of nuclear
21 energy.

22 The White House recognized, very clearly,
23 air benefits of nuclear energy in its comprehensive
24 energy strategy. Vice President Dick Cheney has said,
25 and I quote: "If you are really serious about

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1 reducing green house-gases, one of the solutions to
2 the problem is to go back and take another look at
3 nuclear power."

4 There are tremendous air quality
5 advantages from nuclear energy, for both the health of
6 Pennsylvania citizens, and from an economic view.
7 License renewal for nuclear power plants is important
8 to our nation's future energy, security, and
9 environmental needs.

10 Today's public meeting is part of an
11 extensive process to help ensure that no important
12 environmental issues are overlooked as the NRC
13 continues to evaluate the Peach Bottom license renewal
14 application.

15 Throughout its review, the NRC will
16 continue to keep interested citizens, and
17 stakeholders, apprised of its progress. One of the
18 requirements in the environmental review is for Exelon
19 to compare the environmental impacts of alternative
20 energy sources as part of evaluating possible
21 alternatives to relicensing Peach Bottom.

22 The results of that evaluation are worth
23 noting. For example, photo-voltaic cells generating
24 the same 2,200 megawatts of power produced at Peach
25 Bottom, will consume about 77,000 acres of land.

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1 The draft generic environmental impact
2 statement also evaluates other alternatives for
3 providing electricity for the people of Pennsylvania,
4 including power plants that burn coal, natural gas,
5 oil, wind power, as well as hydro, geothermal energy,
6 and biomass derivative fuels.

7 The GEIS even considers no-action
8 alternative that was stated, do nothing. The report
9 concludes that these alternative actions, including
10 the no-action alternative, are not feasible, or have
11 environmental impacts of moderate to high
12 significance.

13 In contrast the report concludes that
14 environmental impacts associated with renewing the
15 Peach Bottom license are small. With the extension of
16 the license it means 20 more years of environmental
17 and economic benefits, and continued reliable
18 electricity for consumers and businesses in
19 southeastern Pennsylvania.

20 What exactly does license renewal mean?
21 I happen to think it is a necessary option. Let me
22 give you three key reasons why. First, license
23 renewal will maintain economic electric generation
24 that does not produce green house gases, or other air
25 pollutants, such as sulfur dioxide, nitrogen oxide,

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1 and particulates.

2 Second, license renewal will preserve good
3 jobs for this area, and communities like Delta and
4 Peach Bottom Township, where these plants are located,
5 will benefit from the plant's continued operation.

6 Third, renewal of Peach Bottom's license
7 is far more economical than building a new power
8 plant.

9 Many people don't realize that nuclear
10 energy is the largest source of emission free
11 electricity generation in America. It represents
12 nearly 70 percent of our nation's emission free
13 generation.

14 Hydroelectric power is second, with 29
15 percent, photo-voltaic cells, and wind power, each
16 represent less than one percent of emission free
17 generation.

18 It is obvious, from these figures, that
19 nuclear energy provides vital clean air benefits to
20 southeastern Pennsylvania, and the United States,
21 considering that each state must control emissions
22 from electric generating sources, through the Clean
23 Air Act.

24 In your community Peach Bottom also
25 provides stable jobs, and safe, reliable, and

1 affordable electricity. I want to close by saying
2 that the draft GEIS is factual and complete, and could
3 contribute to a fair and objective review of an
4 environmental impact of license renewal at Peach
5 Bottom.

6 And I would like to commend Exelon, and
7 the nuclear professionals at Peach Bottom, for their
8 continued excellent record of safety performance, and
9 commitment, to protect the public health and safety,
10 and the environment.

11 Together these are the key factors, in the
12 NRC's conclusion, in the draft GEIS, that supports a
13 positive decision on renewing the license for an
14 additional 20 years.

15 Thank you very much.

16 FACILITATOR CAMERON: Thank you, Alan.
17 next we are going to go to Dr. Judy Johns^u~~red~~. Do you
18 want to talk from here, or from there?

19 MS. JOHNS^u~~red~~: Chip, I've already had a
20 number of comments, and I think it would be preferable
21 for others who have been silent, to proceed. And if
22 I may, I would like to speak a little bit later.

23 FACILITATOR CAMERON: Thank you, Judy.
24 Let's go to the next three speakers, then, and we can
25 circle back to Judy. First Marcia Marks, then Paul

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1 Gunter, then Sandy Smith. Marcia?

2 MS. MARKS: My name is Marcia Marks, and
3 I live in Bethesda, Maryland.

4 I have about 40 years front line
5 experience in public health, and social services. And
6 I would like to talk to you, really, about what we are
7 seeing in the community.

8 If many of you have seen this, there have
9 been five full page ads in the New York Times saying,
10 why are more kids getting brain cancer, why can't
11 Johnny read, sit still, or stop hitting the neighbor's
12 kid?

13 There are increases in asthma, diabetes,
14 and many other diseases. Book titles by scientists,
15 international scientists, "Our Stolen Future", "Our
16 Children's Legacy", "Generations at Risk", and
17 "Terminus Brain".

18 What we are seeing in the public health
19 community is a very straight deterioration of human
20 health, and the health care costs are out of control.
21 In 1962 Rachel Carson wrote in her book, "Silent
22 Spring": Chemicals and radiation are changing the
23 very nature of this world. And that is what we are
24 seeing.

25 In readings, the environmental impact

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1 statement there were at least 132 references to the
2 word small, and then in caps, SMALL, small risks,
3 small environmental impacts, small significance,
4 etcetera, etcetera.

5 What is meant by small risks? Does that
6 mean if my family and I get sick, that is just a small
7 amount? What happens as the environmental impact
8 statement said, that in 45 years the increase in
9 population will be 62 percent, does small then become
10 medium risks?

11 The nuclear industry is protected by
12 Congress, under the Price-Anderson Act, because no
13 insurance company would take a financial risk of
14 insuring a nuclear reactor.

15 Who will protect me and my family if we
16 get sick? Certainly not the federal government. The
17 record and history has proven the government does not
18 take financial responsibility when it harms its
19 citizens.

20 It took 50 years to get compensation for
21 nuclear plant workers, and those who worked in the
22 industry during the war. Gulf War veterans have
23 received no remuneration.

24 My next question is, and I have a lot of
25 questions. Why has the government stopped taking in

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1 body measurements of strontium 90 in bones and teeth?
2 The U.S. Agency for Toxic Substances and Disease
3 Registry, is starting to measure toxic chemicals to
4 determine human exposure.

5 This is the best proof of toxins in the
6 environment. The same needs to be done for radio
7 nucleides, particularly SR90 in the bones and teeth.
8 Why hasn't the government done this since 1963?

9 Shouldn't the public be made aware of why
10 Peach Bottom 1 was closed in 1987? It is true that
11 the cause was operators were sleeping on the jobs, and
12 taking drugs? Where are the records published about
13 the plant violations, such as those in 1982, '83, and
14 the death of an employee in 1985?

15 Is it true that the NRC called Peach
16 Bottom one of the worse plants in the nation, and shut
17 down Peach Bottom 1 in 1987? Do you think people are
18 more efficient today? I certainly don't. I think
19 general maintenance is improving. Maybe the people
20 that are fixing the plant would like to come to my
21 house, because my house is only 35 years old. Every
22 time I repair one thing, something else breaks down.

23 It is -- maintenance is a continual
24 problem. Look at today's schools where the children
25 are getting sick because of maintenance problems, and

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1 other reasons.

2 Peach Bottom is the agriculture area for
3 many parts of the east coast. How often are
4 measurements done on the milk, and milk products that
5 enter our communities? Isn't it interesting that the
6 schools get free milk and free cheese?

7 When milk is mixed from different farms it
8 becomes impossible to trace it to its source. How
9 often are these products tested for strontium 90 and
10 cesium 137, the longer acting isotopes?

11 What about measurements in fish? That was
12 mentioned today, but it is well known that people eat
13 the fish they catch, even if it is in contaminated
14 water.

15 Until such time as the government can
16 promise to protect present and future generations,
17 Peach Bottom should not have its license renewed.
18 Thank you.

19 Oh, one other thing, for those of you who
20 don't have much knowledge about nuclear waste, I
21 suggest you read the July 2002 issue of National
22 Geographic.

23 It was written by an ex-Marine officer who
24 believes in the defensive mechanisms of nuclear, and
25 he is appalled at the waste across this country. It

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1 is an excellent article. Thank you.

2 FACILITATOR CAMERON: Okay, thank you,
3 Marcia. And if after the meeting, perhaps one of the
4 NRC staff could just talk to Marcia about the
5 availability of the records that she was talking
6 about. They should be public, but we will find out if
7 they are.

8 Paul Gunter.

9 MR. GUNTER: Thanks, Chip. My name is
10 Paul Gunter, I'm the director of the Reactor Watchdog
11 Project for Nuclear Information and Resource Service.

12 I would like to focus my comments,
13 tonight, on the environmental impact statement as it
14 relates to one specific structure, the containment.

15 In 1972 the United States Atomic Energy
16 Commission, their top safety advisor, ^u Steven Hanauer,
17 in a confidential memo to the general, regarding the
18 General Electric Mark I containment pressure
19 suppression system, as used at Peach Bottom, concluded
20 that the safety hazards inherent in the GE containment
21 design were preponderant, in excessive prevalence, and
22 recommended that the Atomic Energy Commission not
23 permit any more designs to be built.

24 Joseph Hendrie, later to become chairman
25 of the AEC successor agency, the Nuclear Regulatory

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1 Commission, wrote in an internal response that banning
2 the Mark 1 pressure suppression containment could well
3 end nuclear power and "would generally create more
4 turmoil than I can stand thinking about."

5 The AEC then issued operating licenses to
6 Peach Bottom 2 in 1973, and unit 3 in 1974. By 1985
7 the Mark 1 boiling water reactor, or BWR, was again
8 singled out by the NRC for special attention, because
9 of strong indications of a high probability that its
10 containment would not survive several accident
11 scenarios.

12 NRC director of nuclear reactor
13 regulation, Harold Denton, told an industry conference
14 that the Mark 1 has a high probability, as high as 90
15 percent, for some accident sequences, such as an
16 overpressurization accident.

17 And as one NRC staffer described, the
18 containment's effectiveness, in an over-temperature
19 accident, core melt, as "like a hot knife through
20 butter."

21 By 1989 the NRC and the boiling water
22 reactor owners, including Philadelphia Electric
23 Company, began work on the Mark 1 containment
24 improvement program.

25 With NRC approval Peach Bottom's operators

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1 installed an 8 inch diameter pipe, or hardened vent,
2 that can be opened from the control room, to vent the
3 reactor's primary containment through the 300 foot
4 tall stack, bypassing the station's radiation
5 filtration systems.

6 Operators at Peach Bottom now have the
7 option to deliberately vent Peach Bottom's containment
8 to the environment through controlled releases of the
9 tremendous internal pressure of a nuclear accident,
10 and its radioactive materials, such as noble gases.

11 Vent containment to save it. A botched
12 design, a proposed ban by its own safety officials.
13 Its primary containment system later verified to have
14 an irreversible design flaw. A principal safety
15 boundary jury rigged, and Peach Bottom was given its
16 first new lease on life with significant reduction of
17 its often-touted defense in depth hardware and
18 philosophy.

19 Today these badly designed and
20 deteriorating reactors are being relicensed for an
21 additional 20 years only if increased risk of adverse
22 environmental impact to our safety, and the economy,
23 and the water, and the land resources.

24 The environmental impact statement does
25 not address security concerns regarding the structure

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1 vulnerabilities of Peach Bottom's elevated irradiated
2 fuel storage ponds.

3 Every refueling cycle Peach Bottom's
4 operators offload one third of the highly radioactive,
5 and extremely hot nuclear fuel from the reactor core,
6 and submerge it into a 40 foot deep elevated storage
7 pond, for thermal cooling and radiation shielding, for
8 a minimum of five years.

9 The Peach Bottom elevated storage ponds
10 are located approximately between the sixth and the
11 tenth story of each reactor building. Referred to as
12 the spent fuel pool, in industry jargon, each storage
13 pond is currently filled with hundreds of tons of high
14 level radioactive waste.

15 As long as the reactors are operating they
16 are constantly cycling thermally hot radioactive fuel
17 rods into the attic of the reactor. It is NIRS stated
18 concern that these elevated storage ponds are
19 extremely vulnerable to a variety of acts of sabotage,
20 radiological terrorism.

21 The environmental impact statement does
22 not adequately address the increased risk by
23 significantly extending the Peach Bottom operating
24 license, and the adverse environmental impact
25 associated with a successful terrorist attack on this

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1 vulnerable target.

2 As reported by NRC's own technical study
3 on spent fuel pool accident risk at decommissioning
4 nuclear power plants published in October 2000, before
5 the attack on the World Trade Center, and the Pentagon
6 "Mark 1 and Mark 2 secondary containments generally do
7 not appear to have any significant structures that
8 might reduce the likelihood of aircraft penetration of
9 the spent fuel pool. Although a crash into one of
10 four sides of the BWR secondary containment may be
11 less likely to penetrate because other structures are
12 in the way of the aircraft."

13 In other words, the Peach Bottom's 40 foot
14 deep spent fuel pool shares only one of its walls in
15 common with the exterior of the reactor building.

16 NRC goes on to state, based on studies in
17 NUREG CR 50.42, the evaluation of external hazards to
18 nuclear power plants in the United States, "it is
19 estimated that one of two aircrafts are large enough
20 to penetrate a five foot thick reinforced concrete
21 wall."

22 The NRC report goes on to state: "It is
23 further estimated that one of two crashes damage the
24 spent fuel pool enough to uncover the stored fuel.
25 For example, 50 percent of the time the location of

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1 the damage is above the height of the stored fuel."

2 As stated earlier, the top of the reactor
3 building surrounding the open surface of the spent
4 fuel pool is basically a sheet metal siding with
5 specified blow-out rating.

6 Now, basically, this references the blow-
7 out panels that are around the top third of the
8 reactor building. These are basically sheet metal
9 siding that are rated to blow out at a quarter pound
10 per square inch.

11 This raises the question for NIRS, what is
12 the blow-in rating for such, for this particular
13 section of Peach Bottom? Where has NRC structurally
14 analyzed this section of the reactor building and
15 evaluated the degree of risk associated with extending
16 the time at which we are vulnerable to the
17 consequences of off-site radiation releases from an
18 act of radiological sabotage at Peach Bottom?

19 NIRS contends that the identified
20 vulnerability is an unacceptable risk, with
21 unacceptable consequences, in the clear and present
22 danger of a post September 11th world.

23 A relicensing proceeding that turns a
24 blind eye on this glaring vulnerability is a sham on
25 the public health and safety, and the environment.

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1 There are copies of this statement out
2 front, and I will also submit a copy to NRC.

3 FACILITATOR CAMERON: Great, thank you
4 Paul, we will attach that to the transcript, also.
5 Sandy?

6 MS. SMITH: Good afternoon. I would like
7 to comment, I didn't even think about it until I was
8 standing here, listening to everyone's speeches. But
9 my grim reaper outfit was made very quickly last night
10 by my daughter, who is in theater, and so forth.

11 And I was pregnant with Gretl when TMI was
12 30 minutes from meltdown. So I guess this is a very
13 apropos outfit that, in fact, I do wear to this. The
14 grim reaper needs her glasses.

15 FACILITATOR CAMERON: And this is, I'm
16 sorry, I didn't fully introduce you for the record,
17 Sandy Smith.

18 MS. SMITH: And I'm a member of
19 Pennsylvania Environmental Network, and the human
20 race.

21 Thank you for letting me speak today.
22 Although I'm angered that this old nuclear plant is
23 even up for the license renewal, the NRC's own
24 standards stated Peach Bottom was supposed to close 30
25 plus years ago.

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1 What has changed? Has anyone from the NRC
2 personally inspected every piece of rusty metal, worn
3 parts, fractured cement? There is no way Peach Bottom
4 can operate safely, or economically, and should be
5 shut down, according to the Nuclear Regulatory
6 Commission's own figures.

7 When death, health, and environmental
8 desolation are added up, Peach Bottom is not a cheap
9 source of energy, only a cheap way for the owners to
10 make billions.

11 Is Peach Bottom required to put up a bond,
12 and for how much? Is there any insurance for an
13 accident, and what amount of insurance? What will
14 happen if and when the plant becomes so unsafe that
15 our land values go down, and we can no longer live
16 here?

17 Will the owners of Peach Bottom go into
18 bankruptcy, like Enron? What will happen, who will
19 pay for all this? According to the Federal Register
20 Notice, each relicensing is expected to be responsible
21 for the release of 14,800 person rem of radiation
22 during its 20 year life extension.

23 The figure includes releases from the
24 nuclear fuel chain that supports reactor operation, as
25 well as from the reactors themselves. The NRC

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1 calculates that this level of radiation release,
2 spread over the population, will cause 12 cancer
3 deaths per unit.

4 And I think I figured that wrong, because
5 I thought per unit meaning per nuclear facility, but
6 we have two units here, so I guess that is maybe 24
7 deaths, instead of 12, I'm not sure about that.

8 Accidents and non-routine radiation
9 releases are not included in the NRC's figures, and
10 could cause still higher casualties. The NRC only
11 calculated likely cancer deaths.

12 So deaths from other radiation induced
13 diseases, and non-fatal cancers, are not included in
14 the calculations. I don't think there are 12 people
15 in York County willing to give up their life for Peach
16 Bottom. And TMI is close by.

17 The NRC has said it expects as many as 100
18 reactors to apply for relicense extensions. This
19 would result in some 12,000 cancer deaths among the
20 U.S. population, but probably more because of the
21 miscalculation on units.

22 Pennsylvania also has, is the second
23 highest number of nuclear reactors, and is the second
24 highest amount of nuclear waste. Because of this
25 Washington says we have to have a nuclear dumping

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1 site.

2 Pennsylvania doesn't want a nuclear
3 dumping site, so why do we have this reactor going
4 off, why are we creating more nuclear waste?

5 Nuclear power is not an admission free
6 technology. The entire nuclear fuel chain, the
7 uranium, primary mines on the lands remaining to the
8 indigenous people, uranium conversion, enrichment,
9 fuel fabrication, each step possesses workers, exposes
10 workers and communities to radioactivity, and each
11 step generates radioactive waste.

12 It defies the concept of disposal, they
13 don't go away, they just get moved around. There is
14 no such thing as a nuclear dump that won't eventually
15 leak. The NRC acknowledges that the allowable limit,
16 100 milli rems a year, for radiation exposure, via
17 air, from any reactor to the general public, will
18 cause a fatal cancer in 1 out of 286 people exposed.

19 This is very high when compared to the
20 standard of 1 in a million considered an acceptable
21 level of human sacrifice for industrial activities.

22 The 1986 catastrophe at Chernobyl has
23 seriously affected the health and welfare of the
24 ~~by~~ ^{belo-} Russian people. I was there, I met them, I know
25 what I'm talking about, I saw the children.

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1 The average life expectancy of women has
2 declined by five years. Only ten percent of the
3 children are completely healthy. Cancer among adults
4 and children have increased in Ukraine and Moldova as
5 well. Two-thirds of Ukraine is contaminated, and 70
6 percent of the food.

7 The watershed of Kiev basin has been so
8 contaminated that it would require 200 billion dollars
9 just to purify the water. 40 million people have to
10 drink it and, yes, they are drinking it now. Children
11 are drinking it; everybody is drinking it now.

12 TMI was 30 minutes from meltdown. How
13 much disaster insurance does Peach Bottom carry for
14 York County? We have a right to know. Are you going
15 to pay for our land when it becomes useless? What
16 will happen?

17 NRC has offered to pay the cost for two
18 day's supply of potassium iodide pills to people
19 living within ten miles of a nuclear power plant. And
20 this is not Laugh-in, or Friday Night Live, this is
21 really it, or Saturday Night Live.

22 Thyroid cancer is a major result of
23 nuclear accidents. The exposures can continue for
24 days, even after one leaves the area. It is in your
25 blood, and so forth.

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1 If a nuclear accident occurred during a
2 natural disaster, earthquake, hurricane, blizzard, ice
3 storm, or an attack, evacuation would be difficult and
4 time consuming, and people would need at least ten
5 days to a month's supply.

6 EPA's manual even states that it should be
7 taken, the iodine tablets, three or four hours after
8 the exposure if it is really going to work.

9 The NRC would also have to stockpile
10 iodine pills in schools, day care centers, places of
11 work, and so forth. Soaring rates of thyroid cancer
12 are still appearing in children from the former Soviet
13 Union, who were exposed to Chernobyl nuclear accident,
14 and who received too little potassium iodine, and too
15 late.

16 There is no way, even the seemingly simple
17 protection can be carried out. Why do our tax dollars
18 have to pay for Peach Bottom, a private company,
19 hazardous operation?

20 In the past three years older, worn out
21 equipment has caused dozens of accidents in plants,
22 causing them to shut down. In May and August of 2000,
23 Peach Bottom unit 3 was forced into an emergency
24 shutdown when its instrument valve failed, and caused
25 a leak of contaminated reactor coolant outside of

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1 primary containment.

2 Much to the discussion, since the

3 September 11th attacks, has focused on the resistance

4 of reactor contaminant structures to aircraft strikes.

5 I wonder about Peach Bottom. We all know it was built

6 way too long ago, it won't hold up.

7 We must assess the nuclear age itself in

8 the wake of Chernobyl. These children are still going

9 to Kiev, they are going to Israel for decontamination,

10 coming back, and then suffering from radiation over,

11 and over, and over again. But the mushrooms are big,

12 let me tell you.

13 We must assess the nuclear age very

14 carefully. There are more than 450 reactors in

15 operation on the planet today. Each generates

16 radioactive waste that will be a threat to human life

17 for hundreds of thousands of years. That is

18 everybody's children.

19 Each routinely releases radioactivity into

20 the air and water. Poland was the only country that

21 protected their children with iodine pills. And that

22 is not a Polish joke.

23 To this day Scotland, sheep in Scotland

24 are contaminated, and the land is contaminated from

25 Chernobyl.

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1 We have seen how far radiation can spread,
2 which depends on the wind. We have also witnessed
3 smoke from the Canadian forest fires. Radiation
4 travels the same paths.

5 If nukes are so safe why do our phone
6 books have an evacuation route, why is the industry
7 trying to figure out where to dump their deadly waste,
8 and why is 46,000 dollars of your county's budget, our
9 money, going yearly to radiation emergency response?

10 If the NRC does not close down Peach
11 Bottom we will not have to worry about the terrorists,
12 because we have our government representing the
13 corporate world of nuclear energy already terrorizing
14 us.

15 Thank you, let's hope we can stop this.

16 FACILITATOR CAMERON: Okay, thank you
17 Sandy. And the next three speakers that we have are
18 Donna Cuthbert, Alliance for a Clean Environment; Sam
19 McConnell, and Lawrence Egbert, from International
20 Physicians for Prevention of Nuclear War.

21 Donna?

22 MS. CUTHBERT: I am here today to address
23 the common sense issues of this problem. The Alliance
24 for a Clean Environment is a group founded in the
25 greater Pottstown area, which is focused on harmful

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1 environmental health impacts in our region.

2 In the greater Pottstown area there is an
3 enormous elevated childhood cancer rate. We also live
4 right at the Limerick nuclear plant. It has been
5 found that in our county there is an elevated cancer
6 rate of childhood cancer deaths, ages 1 to 14, that
7 have increased by 71 percent, from the '80s to the
8 '90s.

9 Is it the Limerick nuclear power plant?
10 Who knows, but it certainly had a part in it. Thyroid
11 cancer has increased in the general population by 96
12 percent from the '80s to the '90s in that county,
13 where we have the Limerick nuclear power plant.

14 Based on Peach Bottom's threat to human
15 health and safety, as well as long-lasting destruction
16 of our environment, we urge the Nuclear Regulatory
17 Commission to deny the license renewal for Peach
18 Bottom.

19 Closing Peach Bottom is clearly in the
20 best interest of the health and safety of all
21 residents in this region, and the best economic
22 interest of the public in general.

23 The President keeps reminding us that our
24 war on terrorism is not likely to end in the near
25 future, if ever. Why would the NRC renew the license

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1 for such a major target for terrorism?

2 The potential to destroy so much, and harm
3 or kill so many people must be ended, not renewed.
4 Even people in the greater Pottstown area could have
5 their health adversely impacted by a terrorist attack,
6 or accidental disaster at Peach Bottom.

7 Pottstown is only about 50 to 55 miles
8 from Peach Bottom. If prevailing winds blow only
9 about 10 miles per hour, radiation can arrive in
10 Pottstown in as little as five hours.

11 Why would the NRC renew the license of any
12 nuclear plant, when it costs the public so much money
13 to protect these facilities from terrorism? How long
14 can we afford to absorb that kind of cost?

15 What kind of debt would we be planning to
16 leave for our children, and their children, just for
17 the constant surveillance of nuclear plants?

18 Why would the NRC renew the license for
19 any nuclear plant when there is no safe way to dispose
20 of the radioactive waste these facilities produce?

21 Spent fuel rods present enormous risks to
22 public health and safety, to store, or to transport.
23 When spent fuel rods can't be disposed of safely, why
24 would the NRC allow the process to continue, which
25 produces more of them?

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1 Transporting spent fuel rods from nuclear
2 plants such as Peach Bottom in Pennsylvania, across
3 the nation to Yucca Mountain, opens the door for all
4 kinds of natural and terrorist catastrophes all along
5 the way.

6 Leaving the nuclear waste on site presents
7 additional risks to the surrounding populations. We
8 face far, far too much risk from nuclear waste
9 already. Common sense tells us that the older the
10 nuclear plants get, the more chance there will be for
11 accidental disasters. Why would the NRC allow this
12 increased risk?

13 In 1990 the National Academy of Science
14 report called the biological effects of ionizing
15 radiation stated that even, even quick decaying
16 radiation is not necessarily safe.

17 Realistically there is no safe level of
18 radiation. Why do we play these safe level radiation
19 games? Why do we do that?

20 Nuclear power plants contain a toxic soup
21 of extremely carcinogenic radiation. There is no way,
22 there is no way to protect people from the ongoing
23 radiation releases at a nuclear facility:

24 There is also no way to protect people
25 from exposure as a result of a nuclear accident.

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1 Realistically this is not truly a guarantee. Some
2 kinds of radiation from nuclear power plants remain in
3 the human body forever.

4 So why would we continue a process when we
5 know it does this kind of harm to human health? I
6 believe Peach Bottom has the potential to be an
7 enormous, enormous health risk.

8 In fact, even people who live in Pottstown
9 could ingest airborne particulates routinely escaping
10 from Peach Bottom. The Pottstown area gets much of
11 its milk from dairies located in Lancaster and York
12 counties, near Peach Bottom. And people ingest Peach
13 Bottom milk.

14 Logically speaking it is irresponsible,
15 and illogical, to extend the life of Peach Bottom.
16 ACE urges you, urges you, to protect the enormous
17 population which can be adversely affected by what
18 happens at Peach Bottom.

19 Please, please, value the health and the
20 environment. Please deny Exelon's application to
21 extend Peach Bottom's license. Thank you.

22 FACILITATOR CAMERON: Thank you, Donna.
23 Is Sam McConnell with us? Sam, do you want to come up
24 and say a few words to us?

25 MR. MCCONNELL: My name is Sam McConnell,

1 I'm a local resident, and I'm concerned and presently
2 involved with local environmental, health, welfare,
3 and safety issues.

4 My background that allows me to, in my
5 opinion, to become involved and voice my desires, is
6 I have 20 years in military nuclear power, including
7 operation and maintenance, RADCON, radiation control,
8 setting up checkpoints, radiophysics, nuclear physics,
9 and more importantly, probably, from a standpoint of
10 understanding what happens, I was the team leader for
11 the nuclear power plant casualty response team.

12 I have one year of environmental
13 assessment of a fossil fuel plant permit application
14 to PADET. I'm not now, or have ever been, involved
15 financially with any commercial electric plant.

16 I personally have been through the Peach
17 Bottom application, its environmental impact volume
18 twice, which is rather boring, but I did it. The
19 safety volume, once, because I can understand what
20 they are talking about. And the draft impact
21 assessment, once.

22 Unfortunately family got in the way, and
23 I couldn't really tear it apart and digest it like I
24 would have liked to.

25 As of today, I'm personally in favor of

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1 approval of the application, as a local, for the
2 following reasons.

3 Extending the license will be less of a
4 local health, welfare, and safety impact than
5 constructing a new plant, either nuclear, or fossil
6 fuel.

7 The findings, the second reason is the
8 findings of ongoing studies that show that fossil fuel
9 plants emissions are considerably more damaging to the
10 local health and welfare than previously thought.

11 Personal experience with the NRC oversight
12 and control, for 20 years I had to live with them, and
13 it was not easy, in the service. And NRC has been
14 involved in monitoring nuclear power plants, and the
15 military will tell you that it is rather grueling,
16 what you go through, dealing with the NRC.

17 The fourth reason is because Peach Bottom
18 has been a good neighbor. I've heard questions about
19 release of information. I have news for you, we knew
20 about the operators sleeping, as soon as it happened.

21 So far as I know we've known about every
22 problem Peach Bottom has had. That is local
23 information.

24 In summary, because I live here, in the
25 real world today, and know that another plant will

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1 fill the void less by Peach Bottom shutting down, I'm
2 in favor of the licensing extension as more desirable
3 than new construction of more nuclear reactors, or a
4 fossil fuel facility, that would take their place in
5 this void.

6 Because, unfortunately, we are in the
7 Susquehanna river basin, and we will see, in fact
8 today we generate more electricity, probably, than any
9 other place in this country.

10 I've done the DOE studies, and we generate
11 17 percent more power than we can use in Pennsylvania,
12 and we are doing it for people who don't live here.

13 So we are getting the emissions that would have to
14 come from a fossil fuel plant, right here, with no
15 benefits. Thank you.

16 FACILITATOR CAMERON: Thank you very much,
17 Mr. McConnell. And now Lawrence Egbert. Is it Dr.
18 Egbert? Yes, Dr. Egbert could come up and speak to
19 us.

20 DR. EGBERT: My name is Lawrence Egbert,
21 I'm a physician licensed in Maryland, and I live in
22 Baltimore. I'm told that Baltimore tends to be
23 downwind from here, but maybe Pottstown is worse.

24 I work with the International Physicians
25 for the Prevention of Nuclear War in Texas, and we

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1 became very interested in the transportation of
2 nuclear waste across New Mexico, and then evaluated,
3 the Veteran's Administration evaluated the training of
4 the physicians in the various hospitals along the
5 route where waste would be transported.

6 And found that in New Mexico, at any rate,
7 they weren't. So the physicians weren't trained to
8 take care of the casualties, radioactive casualties,
9 if a truck happened to have an accident in carrying
10 the waste through their particular town.

11 We did a similar, but not as thorough, a
12 study of the transportation across interstate 40
13 through Oklahoma, and also interstates 30, 10, and 20
14 in Texas, and basically came to the same conclusion.

15 If you have an accident with one of these
16 trucks carrying the waste, do not expect us to be
17 capable of good care. So I'm sorry about that. As
18 far as I know, at the present time, it is still in the
19 state of lack of preparedness.

20 I would say another thing about Baltimore.
21 Baltimore had a little accident last summer, in one of
22 our tunnels a train carrying chemicals, so that we are
23 a little sensitive about the possibility that any
24 waste materials that might come from here, might come
25 down interstate 95 and maybe go through some of our

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1 tunnels.

2 The U.S. chapter, I'm from the Baltimore
3 chapter of the International Physicians for the
4 Prevention of Nuclear War, but our national, United
5 States national chapter, has explicitly said do ^{not} ~~not~~
6 transport your waste to Yucca Mountain.

7 And not just for the reasons that I'm
8 telling you, we are not prepared to take care of the
9 casualties if there is accidents, but because of the
10 general idea of terrorists, and also the idea that the
11 waste, if you are going to carry the waste, if you are
12 going to create the waste, then it is best to have it
13 stored at the most local site that there is, in terms
14 of general hazard.

15 We would, therefore, come to the
16 conclusion, especially in Baltimore, and our steering
17 committee has authorized me to tell you, keep your
18 waste here, don't bring it through Baltimore, which is
19 essentially saying close the plant down, and don't
20 make any more waste.

21 Thank you.

22 FACILITATOR CAMERON: Thank you, Dr.
23 Egbert. We have four remaining speakers, and possibly
24 we will have some time, if Dr. Johnsred wants to talk
25 to us for a little bit.

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1 But we have Frieda Berryhill, Bernard
2 August, Amy Donohue, and Mike Ewall. Frieda?

3 MS. BERRYHILL: When you started you told
4 us of the experiences of the people with the NRC, and
5 years of service.

6 I was an intervenor when Delmarva Power
7 and Light Company planned to build a nuclear power
8 plant in Delaware, and that was in the early 1970s,
9 and I've been at it ever since.

10 So as far as years of study, and interest
11 goes, I'm older than all of you. I have read more
12 documents than you can possibly imagine.

13 As a matter of fact, when we got started
14 Dr. Judy Johnsred and I were young and beautiful. Now
15 we are only beautiful.

16 I'm well aware that these hearings, we
17 have been to so many CYR hearings, Ms. Johnsred and I,
18 you can't imagine, and how many papers we have
19 submitted, and how many studies we have read.

20 CYR hearings are called public hearings.
21 We have no delusions that our being here has any
22 effect on anything, never has had. The nuclear
23 industry self-destructed, not because of our efforts,
24 and we know that. But it is our religion, it has
25 become our religion, you see.

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1 Well, Peach Bottom at this time is one of
 2 seven nuclear power plants with active relicensing
 3 applications. Four plants have been licensed so far,
 4 and there is no indication that any statement in our
 5 position to this dangerous practice has any impact at
 6 all.

7 As a matter of fact, having any new,
 8 having no nuclear power plants to work with, the NRC's
 9 willingness to keep their jobs going, with the same
 10 disregard for safety concerns, and concerns by
 11 opponents, is quite clear.

12 Some years ago one of the NRC men said to
 13 me one time, well, no more new plants, we are out of
 14 a job. Well, now you are safe for God knows how many
 15 years.

16 Most licenses do not expire for another 15
 17 to 20 years. So I ask myself why now? The present
 18 license hasn't expired, and they are already apply.
 19 Don't you want to know why? To amortize the plant's
 20 debt further, further into the future.

21 Therefore padding corporate revenues
 22 today. The NRC knows that, we know that, everybody
 23 knows that. This old, worn and dilapidated plants
 24 originally licensed for 30 years, which was then
 25 considered to be reasonable. Having an extension for

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1 that reason only, keep the money going, just follow
2 the money, and you have the answer.

3 To make my point, cracks and leaks, and
4 embrittlement of the material in aging plants is well
5 known by the NRC. Nozzle cracking in the pressurized
6 water reactors started in the late '80s, and only two
7 months after Oconee was given the 20 year extension,
8 the nozzle cracks were discovered.

9 And I have an explanation, in the back of
10 my statement, for anyone that wants to read it, what
11 those nozzle cracks are.

12 And, again, after extension the nozzle
13 cracks were discovered. And earlier this year Quartz
14 City in Illinois reported a problem with those. And
15 that is a dangerous problem. I urge you to read them.

16 Two other plants currently going through
17 licensing process where cracks were found, that is
18 North Anna, and Surrey. On March 7th, 2002, First
19 Energy's Besse-Davis nuclear power in Ohio experienced
20 the problem, which should alert the NRC to immediately
21 halt all renewals.

22 Boric acid corroded a six inch hole into
23 the reactor vessel, leaving only a third of an inch
24 metal cladding as protection against the reactor
25 breach. The consequences could have been devastating.

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1 And they discovered this by accident. I'm
2 certain you will not permit me to list all the so-
3 called close shaves and mishaps, and sloppiness with
4 which this industry operates. Stupid mistakes with
5 regularity.

6 At General Electric's Trojan plant the
7 control room operator was listening to a baseball game
8 while radioactive water was overflowing from a tank,
9 and flooding the adjacent building.

10 On July 26th at Susquehanna a dry fuel
11 storage cask had accidentally been filled with argon
12 helium gas in its place, instead of the correct 100
13 percent helium gas. Nobody knows what the effects on
14 the storage system are, of this.

15 Now, how can you make a mistake just -- it
16 is beyond imagination.

17 Finally, I would like to direct the NRC's
18 attention to the international situation concerning
19 nuclear power in general. And the reason I do this is
20 because in all the 30 years we were told how wonderful
21 the French have their nuclear program under control.

22 And the French nuclear power program from
23 Framatome has been held up as a marvel. But the
24 chickens are coming home to roost. With an original
25 price tag of 4.3 billion dollars, the Phoenix ran for

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1 a total of 30 months, over a dozen years since it went
2 into operation. And the world's largest fast reactor
3 is now closed for good. And that was the model held
4 up to us for all these years.

5 And, by the way, the breeder reactor in
6 Japan are no better. If the serious accident
7 investigating general commit suicide. We are finally
8 beginning to look into the nuclear industry's claim as
9 to the actual contribution to the nation's energy
10 pool.

11 And this has not yet hit the national
12 consciousness. But there are groups now working on
13 this, and this is very interesting. The production of
14 nuclear power is extremely energy intensive.

15 The energy consumed by future needs, such
16 as shipping 77,000 tons of nuclear waste all over the
17 country, much more being produced, this doesn't even
18 figure into the calculations. If the trillion dollar
19 taxpayer investment, it delivers little more energy
20 than wood.

21 Globally it produces less energy than
22 renewables. In the 1990s global nuclear capacity was
23 only one percent a year, versus 17 percent for solar
24 cells, 24 percent last year, and 24 percent for wind
25 power.

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1 Last year California added more
 2 decentralized megawatts than its two nuclear power
 3 plants. Does anybody really want these plants?
 4 Over the last few years utilities have
 5 been trying to sell them. Maine Yankee even created
 6 a white page complete with color photographs to
 7 promote the sale. There were no takers, the plant was
 8 retired.

9 When will this country find its sanity?
 10 Its sanity? What are we doing to this planet?
 11 Plutonium is radioactive for 250,000 years, and some
 12 elements like iodine and ^{technetium} ~~technitium~~ won't decay for
 13 millions of years.

14 I think it is time to stop, and maybe I
 15 will be here another 10 or 15 years. Thank you.

16 FACILITATOR-CAMERON: Thank you, Frieda,
 17 and we hope you are here with us for another 10 or 15
 18 years.

19 I should just say that we are here to
 20 listen to everybody today, and if there are comments
 21 made that need to be factored into our environmental
 22 or safety reviews we will do that, and that is the
 23 main purpose for why we are here.

24 Our next speaker is Bernard August.

25 MR. AUGUST: My name is Bernard August,

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1 I've been an activist for 37 years.

2 Of course I'm a really good activist,
3 because I was trained by Mrs. Berryhill. So I want to
4 give her credit for sticking my neck out like this,
5 and not giving up.

6 My specialty has always been to study the
7 social consequences of this technology in relation to
8 evacuation zoning, and the study of these plans.
9 These plans are totally required by law, in each
10 state, to comply for a nuclear power license.

11 But the evacuation planning is a farcical
12 project in itself. There is no way that anybody
13 escapes out of a ten mile EPZ safely, within a certain
14 amount of time.

15 Because what is expected of the society
16 that live around the plant, is that they are giving
17 proper notice that the accidents occur, and evacuation
18 will be forthcoming.

19 The social consequences of a nuclear
20 evacuation has been underplayed and on the side line
21 for the last 30 years. It really has come to fore
22 because of 9/11, and now the redistribution of
23 potassium iodide tablets.

24 This idea that people will evacuate under
25 some sort of system is completely baseless and

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1 irrelevant. There has been reports that come from the
2 accident at Three Mile Island, whereas earlier the
3 doctor mentioned about not having adequate physicians,
4 and people to use in the evacuation. Will they be
5 around?

6 This has been determined that nuclear
7 accidents are not the same as natural disasters.
8 People who are responsible, who want to be, the system
9 relies for their jobs to show up, will not show up.

10 Out of the doctors that were reported to
11 show up for Three Mile Island, '70, I think only five
12 or six showed up. That doesn't include the people who
13 are going to have to drive the buses to bring the
14 people out of the zone, the traffic police, and
15 whatever.

16 And what is going to happen if a nuclear
17 evacuation is called? There is going to be
18 spontaneous evacuation outside the ten mile EPZ,
19 further jamming up the highways, and making it
20 impossible for anybody to get out.

21 So as I always say at these hearings, when
22 I go to them, is that the least you can do is to tell
23 the people to stay put in their houses. Because being
24 on the road, in a disaster such as a nuclear accident,
25 will lead to further loss of life, and environmental

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1 destruction.

2 KI must be given to all the populations
3 within at least 50 miles of the plant. I think the
4 new federal law stated that because of the war in
5 terrorism, the Homeland Security Act, that the
6 evacuation plans are going to be extended to 20 miles
7 now, instead of 10.

8 I live in Delaware. I am surrounded by
9 approximately six or seven nuclear power plants on all
10 sides. There is no way in hell that I'm going to get
11 off the Delmarva Peninsula, and there is no way in
12 hell that they are going to be able to distribute KI
13 to me, after the announcement has been announced.

14 So, therefore, the social premise of
15 nuclear power, the fact is that it receives multi
16 million dollar subsidies to keep it operating, is a
17 sham, and a technologic lie.

18 Human nature cannot permit, does not
19 permit perfection in its though process, and its
20 designs, of such an egregious technology. It cannot
21 be achieved.

22 The idea that technocrats, bureaucrats can
23 sit down and degrade human liberty and freedom to an
24 insurance risk assessment is totally bizarre. And I
25 know our lives are lived this way in this country,

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1 because everybody has their job to protect.

2 But as the technology has proven, with its
3 people who are in pursuit of nuclear weapons, and the
4 security structures that are required for nuclear
5 technology can't, and will never be there, for the
6 total protection of the population at large.

7 Thank you.

8 FACILITATOR CAMERON: Thank you Mr.
9 August. Do we have Amy Donohue?

10 MS: DONOHUE: I was going to prepare a
11 written statement but I got a little frustrated with
12 it, so you will have to bear with me.

13 After the last meeting that the NRC held
14 here I submitted, probably, an 18 to 20 page report to
15 them. And I prefaced that report with the following
16 statement:

17 I said, first of all let me be clear. I
18 know that it doesn't matter what I say, or what
19 anybody here says, during this process to relicense
20 Peach Bottom nuclear power plant.

21 The regulations say you, meaning the NRC,
22 has to get public input. So you let us have our say.
23 But in the end the decision will be made despite
24 anything we have to say.

25 Sometimes I really hate being right. I've

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1 put a lot of work into 18 pages, and what I've read in
2 the draft environmental impact statement totally
3 negated everything that I said.

4 I haven't read the entire thing because I
5 haven't had that time yet. But I had a particular
6 interest in alternative power, because I live off the
7 grid. I make all my own electricity by solar panels,
8 solar photo-voltaic panels. I buy no electricity from
9 PECO.

10 So I've turned to page 8-43, to read what
11 you had to say about solar power, I was quite amazed.
12 Running Peach Bottom nuclear power plant for 20 more
13 years, you are telling me, has a small environmental
14 impact.

15 But to replace nuclear power with solar
16 power, you are telling me has a large environmental
17 impact. Quite amazing. How can you say this and get
18 away with it?

19 I'm serious, I mean, it is laughable, if
20 it weren't so serious. I was planning to have a poster
21 sized photograph of my panels, but time ran out, so I
22 don't have that.

23 If anybody is interested, let me know, and
24 I will share with you the great possibilities that
25 solar power has for us.

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1 Underneath what it says about solar power
2 is that it costs too much per kilowatt, I guess that
3 is how it is. Well, let's talk about that, because I
4 know that our federal government, meaning me the
5 taxpayer, subsidizes the nuclear power industry quite
6 a bit.

7 Everything from the insurance that Peach
8 Bottom has that all nuclear power plants have is paid
9 for by me, the taxpayer, through the federal
10 government. Is the Federal Government going to pay
11 my insurance? I don't think so.

12 The other thing is we fund the nuclear
13 regulatory industry through our taxes. I don't know
14 how much you all make, but I bet it can buy a lot of
15 solar panels.

16 Let's see, Yucca Mountain. If you decide
17 to put that waste at Yucca Mountain how much are you
18 planning on spending to do that? How much do you
19 spend in regulation and cleanup from the mining of
20 uranium?

21 I mean, you put all that money together,
22 it can buy a hell of a lot of solar panels. I make
23 all my own electricity with just a few. That is quite
24 a lot of solar panels that can be bought.

25 I know all this because I do a lot of

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1 reading. But as I was preparing this afternoon to
2 come here, actually this morning, I was going through
3 trying to find a phone number, and I came across
4 something that is called Pennsylvania Solar Manual,
5 and it is produced by the Pennsylvania Energy Office.

6 So this is a Pennsylvania government
7 publication. Within that, let me see if I can find it
8 very quickly, in that manual it says, so this isn't
9 coming just from me, it is coming from our state
10 government.

11 Present day energy suppliers benefit from
12 billions of dollars in subsidies. And this was
13 published in 1993, so that is 1993 dollars, I guess,
14 we are talking about.

15 It is estimated that over 50 billion
16 dollars per year is spent by the Federal Government in
17 directly subsidizing the costs associated with fossil
18 and nuclear fuels.

19 These subsidies take the form of tax
20 breaks, research and development, environmental
21 cleanup, health costs, and military expenditures to
22 ensure energy supplies. These costs do not show up in
23 the price we pay for energy, but we pay for them just
24 the same.

25 We pay for them in our tax dollars, we pay

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1 for them with our lives, in cancer. If these hidden
 2 costs, often referred to as externalities, were
 3 included in the price we pay for energy, then solar
 4 energy would be in a far better position to compete
 5 with conventional fuels.
 6 So it is not just me saying that. I, like
 7 I said, have a particular interest in solar because
 8 that is the way I live. And the reason I live that
 9 way is because I don't want to buy my energy from a
 10 nuclear power plant.

11 I live eight miles, approximately, from
 12 Peach Bottom. I hear the sirens go off, I have
 13 probably called the emergency number in our telephone
 14 book too often because sometimes I think I hear them,
 15 and I'm not quite sure, so I call to make sure.

16 I hear them in the middle of the night in
 17 the last couple of years. There was no emergency, it
 18 was a mistake. I said it at the first meeting. We
 19 live in a state of denial in the shadow of this
 20 nuclear power plant.

21 Somebody else is talking about how we will
 22 evacuate. I live next door to an Amish family, lots
 23 of buggies here, lots of buggies. Very dangerous,
 24 normally, on route 74 with those buggies. I can't
 25 imagine evacuating all the people from this area.

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1 You know, I have an interest in organic
2 farming. If that melts down, if we get contaminated,
3 that is gone. My land is useless for that, useless
4 for pretty much anything.

5 So I want to get back to solar, I'm going
6 off here, I'm sorry. The other thing you said about
7 solar is that we don't have enough sun in
8 Pennsylvania.

9 So I found it, again, Pennsylvania Solar
10 Manual put out by the Pennsylvania Energy Office. I
11 know we have enough sun because that is the way I get
12 my electricity.

13 The amount of solar energy striking
14 Pennsylvania each year is 140 times greater than all
15 the electrical and fossil fuel energy consumed in the
16 state annually.

17 Even if the conversion efficiency of
18 sunlight to energy is only 5 percent, solar energy
19 could still supply 7 times more energy than is
20 consumed.

21 Yes, we have a lot of cloudy days, but the
22 sun does come up every morning. There is no way for
23 my solar panels except for, oh, maybe 20 years from
24 now I may have to replace the batteries.

25 But those batteries can be recycled. They

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1 are not going to create cancer to populations around
2 the country, around the world.

3 The panels that I use are by a company
4 called Astropower. And Astropower is an independent
5 solar panel company, and they produce their panels
6 from recycled materials from the computer industry.

7 So even the materials used to make the
8 panels is good for the environment, because they are
9 using recycled materials.

10 So when I read that the environmental
11 impact of replacing nuclear energy with solar power
12 was large, and the impact of continuing Peach Bottom
13 for 20 more years was small, I was totally blown away.

14 I don't need to read the rest of the
15 report although I will, and I will submit, probably,
16 another 20 page comment on it, to know that there is
17 not a whole lot that I'm going to believe in that
18 report.

19 "Because this was just four paragraphs in
20 your report. I wonder where you got all your
21 information from? The numbers that are cited have NRC
22 in parentheses. Since when is the Nuclear Regulatory
23 Commission experts on solar energy?"

24 I can give you, right now, names,
25 telephone numbers of people who are experts on solar

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1 energy. I've spoken with them, they would agree to
2 talk with you, they would agree to talk with the
3 press, because they have studied it, they know. They
4 are the experts.

5 You may think you are experts on nuclear
6 industry, but you are not on solar.

7 The other thing that I want to say, just
8 briefly, is somebody else Sandy, I believe, talked
9 about the twelve extra cancer fatalities as a result
10 of each unit for another 20 years.

11 If somebody came into this room with a gun
12 and killed 24 people in this room, promised not to
13 kill anybody else for the next 20 years, would we
14 allow them to walk out? Would we allow them not to be
15 held responsible for those 24 lives in this room?

16 That is what the Nuclear Regulatory
17 Commission is saying, that they are going to give a
18 license to Peach Bottom to continue to do, 24 deaths.

19 I would like to see the hands of 24 NRC or
20 Exelon personnel, right now, who would be willing to
21 give up their lives. Because you are asking us, those
22 of us who live here 8 miles from that power plant, to
23 do that.

24 FACILITATOR CAMERON: Amy, I guess I'm
25 going to have to ask you to wrap up.

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1 MS. DONOHUE: Okay, I'm done.

2 FACILITATOR CAMERON: And if you have the
3 patience and willingness, maybe, after the meeting the
4 NRC people can talk to you about what methodology was
5 used in terms of the solar analysis, and we appreciate
6 your comments on that and, thank you.

7 And we have Mike, Michael Ewall, now, to
8 speak to us. Mike?

9 MR. EWALL: My name is Mike Ewall, it is
10 E-W-A-L-L, with the Energy Justice Network.

11 I testified back in November, and from my
12 experience there I know that my comments will be
13 ignored, because my comments were ignored then. And
14 they actually told me why, so they weren't even
15 pretending they were going to take them into
16 consideration.

17 I spoke the last time about terrorism
18 impacts, and I was told that that was not something
19 that we are allowed to really give comments on. Not
20 that we are not allowed to give comments to, but that
21 we are not going to be listened to and, obviously,
22 none of it ended up in this EIS report, because that
23 is being handled in a separate process that is generic
24 to all reactors.

25 And while that is admirable that you have

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1 that, I think it would also be appropriate to have
2 site specific terrorism impact information in here.
3 You talk about -- you had a great acronym for it,
4 severe accidents.

5 But there is nothing about severe, like,
6 deliberate damage being done to this reactor. And as
7 Paul Gunter gave, on some very clear testimony on the
8 vulnerability site specifically to this reactor, I
9 think that needs to be addressed.

10 I don't have any illusions, either, that
11 my comments are going to affect this in any way. I
12 know also because some other things I said the last
13 time about solar and wind, and conservation
14 efficiency, also did not make it into this report.

15 I will go more into that in a minute. One
16 of the things that I think need to be addressed in
17 here, though, that I just looked through this and
18 noticed, is that there is nothing addressing the spent
19 fuel, and where that would go.

20 And even if Yucca Mountain is built, and
21 even if it manages to ship all the waste there with no
22 accidents, and all these things that we are all
23 hoping, some people are hoping would happen, I don't
24 want to see Yucca Mountain at all.

25 But even if that happens Yucca Mountain is

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1 not going to have room for the waste that would be
2 created in these extra 20 years. So you need to be
3 talking about this in this report. Where is that
4 waste going to go?

5 Because Yucca Mountain is not for that
6 waste, it is only for the waste up to a certain point.

7 Now, if a lot of that waste has to be temporarily
8 stored in dry cask storage, we have a number of oops,
9 mistakes, going on with dry cask storage, including
10 one from just this past week.

11 Actually Frieda already made mention of
12 it, in Northeast Pennsylvania, where they filled the
13 dry casks with the wrong gases, argon and helium
14 instead of just helium.

15 Now the NRC report from that stated that
16 they don't know what impacts that might have, but it
17 might degrade the effectiveness of these containers.
18 And these are containers that we do not have the
19 technology, or ability to repackage this waste, to put
20 it back in the fuel pool.

21 So without those kinds of alternatives it
22 is a big deal that they are filling these casks with
23 the wrong gases. And in Point Beach, Michigan, and
24 Palisades, you have the same kind of -- not the same
25 kind, but you have other dry cask storage incidents

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1 with hydrogen bubble explosions, and wind several
2 times blowing several feet off of the surface, near
3 defective wells with dry casks.

4 Now, why are we possibly allowing more of
5 the spent fuel to be created when we can't fit it in
6 this reactor? We are not going to have any place to
7 throw it away, like Yucca Mountain.

8 And the dry cask storage facilities don't
9 even work, and they are glaring terrorist targets, and
10 we know this, and I talked about this the last time,
11 it was after September 11th, then too.

12 And we knew about this well before
13 September 11th, and things got ignored. I'm shocked
14 at how things are getting ignored now.

15 The no-action alternative in here I think
16 is the best alternative and ought to be adopted, of
17 course. And if you look, and I just downloaded this,
18 right this morning, from the PJM interconnection
19 website, PJM are the folks that run our grid around
20 here.

21 And if you add up all the nuclear capacity
22 in this state you get about 9 to 10,000 megawatts of
23 capacity. Now, I have been helping communities fight
24 off all these unneeded natural gas power plants,
25 because Pennsylvania is already the largest exporter

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1 of electricity of any state.

2 We export so much electricity, I know it

3 is not done on a state by state basis, but how much is

4 generated versus used in each state? Pennsylvania is

5 the largest exporter. And we export so much that we

6 can fill all the deficits in the states from Vermont

7 down to Virginia, and out to Michigan.

8 So that is quite a bit of excess

9 electricity, and that is not including the fact that

10 West Virginia and a lot of other states also have

11 excess capacity.

12 Now, on top of that excess capacity,

13 Pennsylvania has been faced with 50 to 70 new natural

14 gas power plants. One of them right here in the Peach

15 Bottom area. Now, these power plants, first of all,

16 just the one here at Peach Bottom would be at least

17 half as large as the reactors that are already here.

18 So half the capacity could, theoretically,

19 if they build this plant, be shut down. But that is

20 not being talked about.

21 Now, on PJM's website they are talking

22 about adding well over 10,000 megawatts each year, in

23 2003, 2004, 2005. Now, just the and this is almost

24 all natural gas. Just the natural gas power plants

25 that are already built, within the recent few years,

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1 or under construction, or likely got built.

2 And a lot of them have been fought off,
3 withdrawn, or defeated, and I have helped with some of
4 those, I know this pretty well. But even the ones
5 that are likely to go through is more than 10,000
6 megawatts.

7 Meaning we can not only shut down Peach
8 Bottom, both units, we can shut down all the nukes in
9 Pennsylvania, and no one's lights are going to go out,
10 no one is even going to notice. We already have such
11 a glut that even with a California style games
12 happening here, by PPL, just like Enron did in
13 California, PPL is being investigated for the same
14 type of wholesale price manipulation.

15 But the lights aren't going to go out
16 here, because we produce so damn much. And one of the
17 things mentioned in this report, actually let me give
18 another reference for how much extra energy capacity.
19 This is from, and I have extra copies of this.

20 This is an Energy Industry Conference held
21 in Pennsylvania this past October. I have multiple
22 copies of this. This is the best presentation given
23 by Dave Costello of the Department of Energy, and
24 Exelon is aware of this, because one of the keynote
25 speakers was the head of Exelon.

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1 The mid-Atlantic region generating
2 capacity in 2001 through '3, you have approximately
3 20,000 megawatts, maybe a little less than that, being
4 added, according to this.

5 Now, PJM has a lot more than that. But
6 even in the lower end of these two estimates you have
7 twice as much of all the nuclear capacity in
8 Pennsylvania being filled, mostly by natural gas, in
9 the next few years.

10 So the no-action alternative already says
11 that this power is getting replaced, whether you like
12 it or not. I don't like the technology, but that is
13 the way it is.

14 Sorry, I'm reading my really tiny notes to
15 myself, here. Okay, how the 12 year advance permit
16 are needed, in this report -- actually no; not in this
17 report.

18 Earlier in the presentation today it was
19 explained that the reason that is being done twelve
20 years in advance is to give Exelon time for
21 replacement power. Now, that is ridiculous because it
22 is already getting replaced, so that is not a
23 legitimate argument.

24 The replacement power time frame that is
25 needed, even if there was a need for replacing this

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1 specific reactors power, could be done within two to
2 three years, because that is the time frame for
3 establishing wind, and/or natural gas, both power
4 plant technologies take only a few years.

5 Now, in this report, under wind, it
6 mentioned that ridge lines are unsuitable for
7 winterize. Now, that is the most ridiculous thing I
8 have ever heard. I just came from an energy
9 conference in New Jersey, plenty of folks from DOE and
10 other wind energy people that were there.

11 I saw the newer data on this, and hope you
12 are not trying to get me to shut up, because I have a
13 few more points here. There is plenty of wind along
14 the ridge lines, and Exelon knows this, because
15 community energy is going ahead and building large
16 wind farms in Pennsylvania, some of them on ridge
17 lines.

18 Yes, they are deforesting some of them,
19 and there are impacts. However, Exelon knows this
20 because they are funding them. There is a 60 megawatt
21 wind farm going on line in Northeast Pennsylvania.
22 Exelon is underwriting that. There are already two in
23 Southwest Pennsylvania, Exelon underwrote those as
24 well.

25 There is another one going in, in West

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1 Virginia, in the Backbone mountain, another 60
2 megawatts. That is also Exelon money behind that. So
3 Exelon is not unaware of this.
4 And if you are unaware of this it is
5 because you are not talking to your licensee, because
6 these are their projects, for the most part.
7 And so the wind part of this report is
8 woefully inadequate, it is scientifically inaccurate,
9 it is just wrong, you need to do your homework. I've
10 seen college reports, bachelor's degree college
11 reports, that are much better documented than this,
12 much better researched.
13 Their head of the Department of
14 Environmental Protection in Pennsylvania, David Hess,
15 was actually quoted at the Energy Conference where
16 that natural gas presentation was given, saying that
17 using just the decent wind speed sites in
18 Pennsylvania, we can supply 30 percent of our
19 electricity needs in this state.
20 Now, what he is quoting is from the
21 American Wind Energy Association, which is using
22 Department of Energy data, which is working on being
23 revised, it is not really that optimistic. However,
24 30 percent is pretty high.
25 And even if it turns out to be 10 percent,

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1 that is very significant, and that needs to be
2 addressed in this report. So you are obviously
3 misgauging the impacts of wind.

4 And also, a lot of this is addressing
5 section E, on A-48 you mention over 50 competitive
6 suppliers in Pennsylvania. This report, again, needs
7 to be updated. There were close to 50 when
8 deregulation first hit Pennsylvania, that is before we
9 had PPL doing the Enron-like games here.

10 Since then competitors have fled as
11 quickly as they can, we have very few suppliers that
12 are left in this state right now, especially for the
13 residential sector. For the business sector we have
14 some, but it is still not looking that good.

15 And also on that same page, on page 8-48,
16 there is basically no incentive for Exelon to be
17 pushing conservation in a competitive market. Well,
18 yes, that is a problem, that is a problem with the
19 whole system of having a competitive market for
20 things, when the logic in this report is saying,
21 Exelon is not going to do it, that is not going to
22 happen.

23 And that is, basically, the assumption
24 that I saw in here because, otherwise, we can easily
25 talk about methods of conserving enough electricity,

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1 and without just looking back at their failed attempts
2 as a utility to work as against their own economic
3 interest.

4 And, finally, page 8-49, the very first
5 few lines it says, therefore it is not clear whether
6 Exelon or another competitor supplier will construct
7 new generating units to replace Peach Bottom units 2
8 and 3 if the license were not renewed.

9 Again, you are getting at this idea that
10 you have no idea what is going on currently, or if you
11 do, you are not writing it into this report. This
12 power is already being replaced.

13 So the whole no-action alternative, the
14 wind, the solar estimates, the conservation efficiency
15 estimates completely need to be rewritten. I've
16 already submitted testimony on this, and it hasn't
17 been incorporated.

18 And to work off something Amy just said,
19 she mentioned there is 50 billion dollars a year in
20 federal subsidies to fossil and nuclear power, and
21 that is about ten years ago. Only slightly less than
22 one billion dollars, 600 million dollars, 60 million
23 dollars according to a report by KPMG.

24 That is the cost it would take to build a
25 large scale solar panel production facility, where

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1 every year you can crank out the production of 500
2 megawatts worth of power. So in four years just one
3 factory can replace Peach Bottom and then keep making
4 more Peach Bottom's worth of electricity, but in the
5 form of solar panels.

6 Now, for that cost, and building it down
7 to economy of scale, actually the question that I
8 wrote for was what size would it take to make solar
9 power affordable? That is the problem with it, and
10 you mention this in the report, that solar panels are
11 not affordable right now.

12 Well, building on the economy of scale
13 that would be less than a billion dollars, 6 to 700
14 million dollars, will bring the cost of solar panel
15 production down by four to five times, so that is cost
16 effective with other forms of electricity generation.

17 And when I say cost effective I'm talking
18 about cost effective with the subsidized, and not real
19 cost that nuclear reactors are currently getting,
20 because nuclear reactors aren't cost competitive
21 either, that is why they are so heavily subsidized.

22 So that ought to be addressed.

23 FACILITATOR CAMERON: Okay, thank you for
24 those specific comments, Mike. We are over our time
25 and since Judy Johnsred graciously gave up her spot

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1 earlier, I promised that she would have at least a
2 couple of minutes.

3 And Judy could you -- well, do you want
4 them? If you would please just try to keep it brief
5 for us? Dr. Judy Johnsred:

6 DR. JOHNSRED: Thank you, Chip. My name
7 is Judy Johnsred, I did my doctoral work in the field
8 of the geography of nuclear energy, and I have a sort
9 of a unique position here today.

10 I represent the Environmental Coalition on
11 Nuclear Power, founded in 1970, here in Pennsylvania.

12 And Sierra Club, technical advisor to their national
13 waste committee, currently.

14 But I was -- we were original intervenors
15 in the licensing of units 2 and 3 of Peach Bottom.

16 And so it's been a long 30 years for me, to have to
17 come back here now and find that the agency personnel
18 either haven't learned, haven't come to understand the
19 nature of radiation injury, or they are not allowed to
20 do their job.

21 There are three sets of people here that
22 I really wanted to be able to address. Those of you
23 who live here, and those who have come because they
24 don't live here, but they care about here; the NRC
25 Staff, and those who, I assume, are the majority here

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1 of Exelon company.

2 And I think that what so many of us,
3 including those associated with the industry, perhaps
4 haven't really grasped is what is driving the force to
5 relicense an aging plant with a less than sterling
6 record.

7 When, indeed, there are available other
8 much cleaner, much cheaper, much more durable sources
9 to generate the electricity, the energy that we need.
10 We are beginning to hear, in Pennsylvania, about
11 distributive energy, taken seriously, where in a
12 community is concerned to supply for itself.

13 But what is driving this, why do you folks
14 in the agency, who very frankly ought to know better,
15 if you are reading the literature in your own field,
16 if you were attending conferences that the NRC has not
17 seen fit to bother to attend, concerning the impacts
18 of low level radiation.

19 What is driving it? It is the law. How
20 many of you have heard me read the law to you? Read
21 the law. How many of you have read the National
22 Nuclear Energy Policy Statement? Anybody in the room?
23 Right, and you heard what they had to say.

24 You who work for the Agency? It is
25 chapter 1, section 1, and you better listen, it is why

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1 we have the problem facing us, of 50 percent more high
2 level radioactive waste, and far more radioactive
3 waste and materials that will be deregulated, that are
4 already being deregulated, to be recycled into the
5 consumer products of all of us.

6 The law says, "Atomic Energy is capable of
7 application for peaceful as well as military purposes.

8 It is, therefore, declared to be the policy of the
9 United States that the development, use, and control
10 of atomic energy shall be directed so as to make the
11 maximum contribution to the general welfare, which is
12 not defined in the law.

13 Subject at all times to the paramount
14 objective of making the maximum contribution to the
15 common defense and security, and the development, use,
16 and control of atomic energy shall be directed so as
17 to promote world peace, improve the general welfare,
18 improve the standard of living, and strengthen free
19 competition in private enterprise.

20 Now, there are two things not mentioned
21 here. Did you catch them? There is not a word about
22 protection of the public health and safety, or of the
23 quality of the environment.

24 You have to read down several sections
25 and, even then, those factors which are surely the

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1 paramount objective in our society, are subordinated
2 by being equated with national security and the free
3 enterprise factor.

4 I am appalled at the unwillingness of the
5 Nuclear Regulatory Commission, and EPA, and DOE, to
6 consider the information that is now becoming
7 available concerning the impacts of ionizing radiation
8 on the well being of living creatures, organisms of
9 all kinds.

10 You fellows up here are well beyond being
11 that healthy, young, standard man. So you ought to
12 listen carefully. Because those standards that were
13 mentioned to us by Dr. -- those standards were, in
14 fact, developed based upon standard man, using
15 weighting factors for organs, divorced from the
16 reality of the variabilities in human susceptibilities
17 to disease, to exposures, to the synergies between and
18 among the sources of contamination that are with us,
19 throughout our environment.

20 And the comments that you have heard today
21 that are very significant, concerning health impacts,
22 are based upon essentially an epidemiological
23 approach, and that is really all we've had in the
24 past, on which to base our understanding of health
25 impacts.

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1. But whenever a community has requested a
 2. health study, and the health study has shown that,
 3. indeed, there are excesses of certain cancers, or
 4. leukemia; the response has been, but that is too small
 5. a sample to have statistical significance.

6. And I think we are at the point where we
 7. need to think about how many such insignificant
 8. studies add up to very substantial significance to be
 9. taken seriously.

10. But the situation with regard to the
 11. health impact of the uses of ionizing radiation that
 12. increase within our society, within our environment,
 13. those today are being looked at in a very different
 14. way.

15. And that way is through molecular and
 16. cellular radiation biology; that is really beginning
 17. to get us an understanding of the mechanisms of the
 18. damage.

19. And I don't see that that is being
 20. factored into this study, anymore than the totalities,
 21. the systemic approaches that are necessary in order to
 22. have a valid environmental impact statement.

23. Having promised you that I was going to
 24. make it very short, I'm not going to say many of the
 25. things that I think also need to be said. But I

1 commend to you the comments, reasoned, careful,
2 thoughtful, and correct comments that you have heard
3 today, from many people who care about the well being
4 of this area of southern Pennsylvania.

5 I urge, really a total reworking of this
6 EIS, of the environmental review necessary. And I
7 would strongly, strongly urge the NRC to set a
8 precedent of denying a license extension.

9 FACILITATOR CAMERON: Thank you, Judy, and
10 thank all of you for coming out and sharing your
11 concerns, and your comments with us. We are going to
12 be back at 7 o'clock for another meeting, open house
13 at 6 before that.

14 Thank you, and we are adjourned.

15 (Whereupon, at 5:00 p.m. the above-
16 entitled matter was concluded.)
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CERTIFICATE

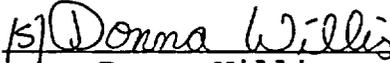
This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: Draft Environmental Impact Statement, Peach Bottom Power Station, Units 2 & 3 License Renewal - Afternoon Session

Docket Number: N/A

Location: Delta, Pennsylvania

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



Donna Willis
Official Reporter
Neal R. Gross & Co., Inc.

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MORE THAN 1,200 COULD DIE UNDER NUCLEAR RELICENSING PROGRAM

Public Hearing Testimony – July 31, 2002

To: Nuclear Regulatory Commission

Re: Peach Bottom Operating License Renewal - 2014 to 2034

Submitted by: Sandy C. Smith, member of Pennsylvania Environmental Network

Thank you for letting me speak today although I am angered that this old nuclear plant is even up for License Renewal. The NRC's own standards stated Peach Bottom was supposed to close years ago. What has changed? Has anyone from the NRC personally inspected EVERY peice of rusty metal, worn parts, fractured cement? There is no way Peach Bottom can ~~not~~ operate safely or economically and should be shut down according to the Nuclear Regulatory Commission's [NRC] own figures! When deaths, health and environmental desolation are added up, Beach Bottom is NOT a cheap source of energy—only a cheap way for the owners to make billions. Is Peach Bottom required to put up a bond and for how much to assure York Co. that if they go into bankruptcy we will not be left paying for clean up? How much, if any, insurance is Peach Bottom's old plant required to carry that would cover an accident? What will happen if/when the plant becomes so unsafe that our land values go down and we can no longer live here?

According to the Federal Register notice, each relicensing is expected to be responsible for the release of 14,800 person-rem of radiation during its 20-year life extension. The figure includes releases from the nuclear fuel chain that supports reactor operation, as well as from the reactors themselves. The NRC calculates that this level of radiation release spread over the population will cause 12 cancer deaths per unit. Accidents and non-routine radiation releases are not included in the NRC's figure, and could cause still higher casualties. The NRC only calculated likely cancer deaths, so deaths from other radiation-induced diseases and non-fatal cancers are not included in its calculations. There are not twelve people in York County willing to give up their life for Beach Bottom! TMI is close by... The NRC has said it expects as many as 100 reactors to apply for license extensions; this would result in some 1,200 cancer deaths among the U.S. population.

Pennsylvania has the 2nd highest number of nuclear reactors and the 2nd highest amount of nuclear waste. The state already possesses 922 sites identified by the EPA where radioactive contamination may exist. Thus, the reason for PA being told by Washington they MUST have a nuclear dumping site! PA does NOT want a Nuclear Dump!

Nuclear power is not an 'emissions-free' technology. The entire nuclear fuel chain: the uranium, primarily mines on the lands remaining to indigenous people; uranium conversion; enrichment; fuel fabrication—each step exposes workers and communities to radioactivity, and each step generates radioactive wastes. Radionuclides defy the concept of "disposal"; they don't go away, we just move them around. There is no such thing as a nuclear dump that won't eventually leak. The NRC acknowledges that the allowable limit (100 millirems a year) for radiation exposure via air from any reactor to the general public will cause a fatal cancer in 1 out of 286 people exposed. This is very high when compared to the standard of 1 in 1 million considered an "acceptable" level of human sacrifice for other industrial activities.

The 1986 catastrophe at Chernobyl has seriously affected the health and welfare of the Belarusan people. The average life expectancy of women has declined by 5 years. Only 10% of the children are completely healthy. Cancer among adults and children have increased in Ukraine and Moldova as well. Two-thirds of Ukraine is contaminated and 70% of the food. The watershed of the Kiev basin has been so contaminated that it would require \$200 billion just to purify the water—40 million people have to drink it. TMI was 30 min. from melt-down. How much disaster insurance does Peach Bottom carry for York Co.? We have a right to know.

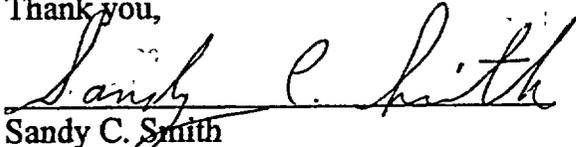
NRC has offered to pay the costs for two days supply of potassium iodide pills to people living within 10 miles of a nuclear power plant. Thyroid cancer is a major result of reactor accidents, the exposure can continue for days even after one leaves the area. If a nuclear accident occurred during a natural disaster—earthquake, hurricane, blizzard, ice storm—or attack, evacuation would be difficult and time consuming and people would need at least 10 days to a month's supply. EPA Manual [Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA-400-R-92-001 (May 1992)] quotes the FDA as stating that, "potassium iodide will have substantial benefit even if it is taken 3 or 4 hours after acute exposure." The NRC would also have to stockpile iodine pills in schools, day care centers, places of work, etc. Soaring rates of thyroid cancer are still appearing in children from

the former Soviet Union who were exposed to the Chernobyl nuclear accident and who received too little potassium iodide, and too late. There is no way even this seemingly simple protection can be carried out. Why do our tax dollars have to pay for Peach Bottom, a private company's hazardous operation?

In the past three years, old or worn-out equipment has caused dozens of incidents requiring plants to shut down. On May and August 2000, Peach Bottom Unit 3 was forced into emergency shutdown when an instrument valve failed and caused a leak of contaminated reactor coolant outside of primary containment. Much of the discussion since the September 11th attacks has focused on the resistance of reactor containment structures to aircraft strikes. Peach Bottom will not hold up because it was not built to operate this long or withstand an attack. The Nuclear Regulatory Commission (NRC) needs to analyze this issue so that its answer is known rather than debated. More importantly, the NRC must address the vulnerability of spent fuel storage at all US nuclear power plants now. Spent fuel pools contain more highly radioactive fuel than the reactor cores. Spent fuel pools at all US nuclear plants are located outside the reactor containment. Highly radioactive fuel assemblies are stored after their removal from the reactor core. Water storage is required because spent fuel assemblies continue to emit considerable amounts of both heat and radiation for many years. Without cooling, the fuel pool water will heat up and boil. If the water boils or drains away, the spent fuel assemblies will overheat and either melt or catch on fire. NRC studies have estimated that many thousands of people living within 50 miles could die from the radiation released when spent fuel assemblies melt or catch on fire. This can happen without an attack. An aircraft or missile would not need to completely level the fuel building to cause harm. It would merely need to crack the concrete wall or floor and drain the water out. The spent fuel pool is not designed to withstand aircraft impacts and explosive forces.

We must assess the Nuclear Age itself in the wake of Chernobyl. There are more than 450 reactors in operation on the planet today. Each generates radioactive wastes that will be a threat to human health for hundreds of thousands of years. Each routinely releases radioactivity into the air and water. Poland was the only country that protected their children with iodine pills. We have seen how far radiation can spread which depends on the wind. We have also witnessed smoke from Canadian forest fires; radiation travels the same paths. **If nukes are so safe, why does the phonebook have evacuation routes, why is the industry trying to figure out where to dump their deadly waste, & why is \$46,000 of York Co. taxes budgeted yearly for Radiation Emergency Response? If the NRC does not close down Peach Bottom, we will not need to worry about terrorists because we have our government representing the corporate world of nuclear energy plants already terrorizing us!**

Thank you,



Sandy C. Smith

Fox Brush Farm
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Brogue, PA 17309

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License Renewal Is the Best Option for Peach Bottom

Alan P. Nelson
Senior Project Manager
Nuclear Energy Institute

July 31, 2002
Delta, Pennsylvania

Good evening. My name is Alan Nelson I am a Senior Project Manager at the Nuclear Energy Institute. I am pleased to have the opportunity to join the discussion today among interested citizens of Pennsylvania and Maryland, state and local officials, NRC staff, and other parties on license renewal for Peach Bottom.

The Nuclear Energy Institute coordinates energy policy for U.S. energy companies that own a nuclear power plant. The Institute also represents industry suppliers, fuel cycle companies, universities and colleges, and other organizations involved in the beneficial uses of nuclear technologies—such as medicine, agriculture and food safety and space exploration.

Nuclear energy provides electricity for one of every five homes and business in America. Here in Pennsylvania, electricity customers get their electric power from nine nuclear reactors, including Peach Bottom, as well as Limerick, TMI, Susquehanna and Beaver Valley nuclear plants.

The purpose of today's meeting is to discuss environmental issues related to the license renewal application for Peach Bottom that Exelon submitted to the NRC on July 2, 2001.

Exelon is the tenth utility to seek nuclear plant license renewal. In March 2000, the NRC for the first time approved a 20-year license extension for two reactors at the Calvert Cliffs Nuclear Power Plant on the shores of the Chesapeake Bay in Maryland. That approval was a landmark for the industry and evidence of the tremendous long-term energy and environmental benefits of nuclear power. To date, ten reactors have already received 20-year license extensions from the NRC, and the agency is reviewing requests from 14 others, including Peach Bottom.

More than one half of all (103) U.S. reactors are expected to submit applications over the next several years. Many more are expected to join them.

Renewing nuclear plant licenses for an additional 20 years is economical compared to the development of alternative energy sources. As both the Nuclear Regulatory Commission and stakeholders become more familiar with the process, we expect the license renewal process to become even more efficient.

Moreover, there is growing recognition among the public and policymakers both in the United States and internationally that we must maintain the clean air and other environmental benefits of nuclear energy.

The White House recognizes very clearly air benefits of nuclear energy in its comprehensive energy strategy. Vice President Dick Cheney has said,—“If you're really serious about reducing greenhouse gases, one of the solutions to the problem is to go back and take another look at nuclear power.”

There are tremendous air quality advantages from nuclear energy both for the health of Pennsylvania's citizens and from an economic view.

License renewal for nuclear power plants is important to our nation's future energy security and environmental needs. Today's public meeting is part of an extensive process that helps ensure that no important environmental issues are overlooked as the NRC continues to evaluate the Peach Bottom license renewal application. Throughout its review, the NRC will continue to keep interested citizens and stakeholders apprised of its progress.

One of the requirements of the environmental report is for Exelon to compare the environmental impacts of alternative energy sources as part of evaluating possible alternatives to relicensing Peach Bottom.

The results of that evaluation are worth noting. For example, photovoltaic cells generating 2,200 MW of power ... the same amount of electricity produced at Peach Bottom... would consume about 77,000 acres of land.

The draft GEIS also evaluates other alternatives for providing electricity to the people of Pennsylvania, including power plants that burn coal, natural gas, oil, or wind power as well as hydropower, geothermal energy and biomass-derived fuels. The GEIS even considers a no-action alternative, which means, "do nothing." The report concludes that these alternative actions, including the no-action alternative, are not feasible or may have environmental impacts of moderate to high significance. In contrast, the report concludes that the environmental impacts associated with renewing the Peach Bottom license are small.

With the extension of the license it means 20 more years of environmental and economic benefits and continued reliable electricity for consumers and businesses in Southeastern Pennsylvania.

What exactly does license renewal mean?

I happen to think it's a necessary option. Let me give you three key reasons why:

- **First**, license renewal will maintain economic electric generation that does not produce greenhouse gases or other air pollutants, such as sulfur dioxide, nitrogen oxide and particulates.
- **Second**, license renewal will preserve good jobs for this area. And communities like Delta and Peach Bottom Township, where these plants are located, will benefit from the plant's continued operation.
- **Third**, renewal of Peach Bottom's license is far more economical than building a new power plant.

Many people don't realize that nuclear energy is the largest source of emission-free electricity generation in America. It represents nearly 70 percent of our nation's emission-free generation.

Hydroelectric power is second at 29 percent. Photovoltaic cells and wind power each represent less than 1 percent of emission-free generation.

It's obvious from these figures that nuclear energy provides vital clean air benefits to Southeastern Pennsylvania and the United States, considering that each state must control emissions from electric generating sources through the Clean Air Act. In your community, Peach Bottom also provides stable jobs, and safe, reliable and affordable electricity.

I want to close by saying that the draft GEIS is factual and complete, and should contribute to a fair and objective review of the environmental impacts of license renewal at Peach Bottom. And I'd like to commend Exelon and the nuclear professionals at Peach Bottom for their continued excellent record of safety performance and commitment to protecting public health and safety and the environment. Together, these are key factors in the NRC's conclusion in the draft GEIS that supports a positive decision on renewing the license for an additional 20 years.

Thank you.

Radioactivity in Baby Teeth NEAR NUCLEAR PLANTS

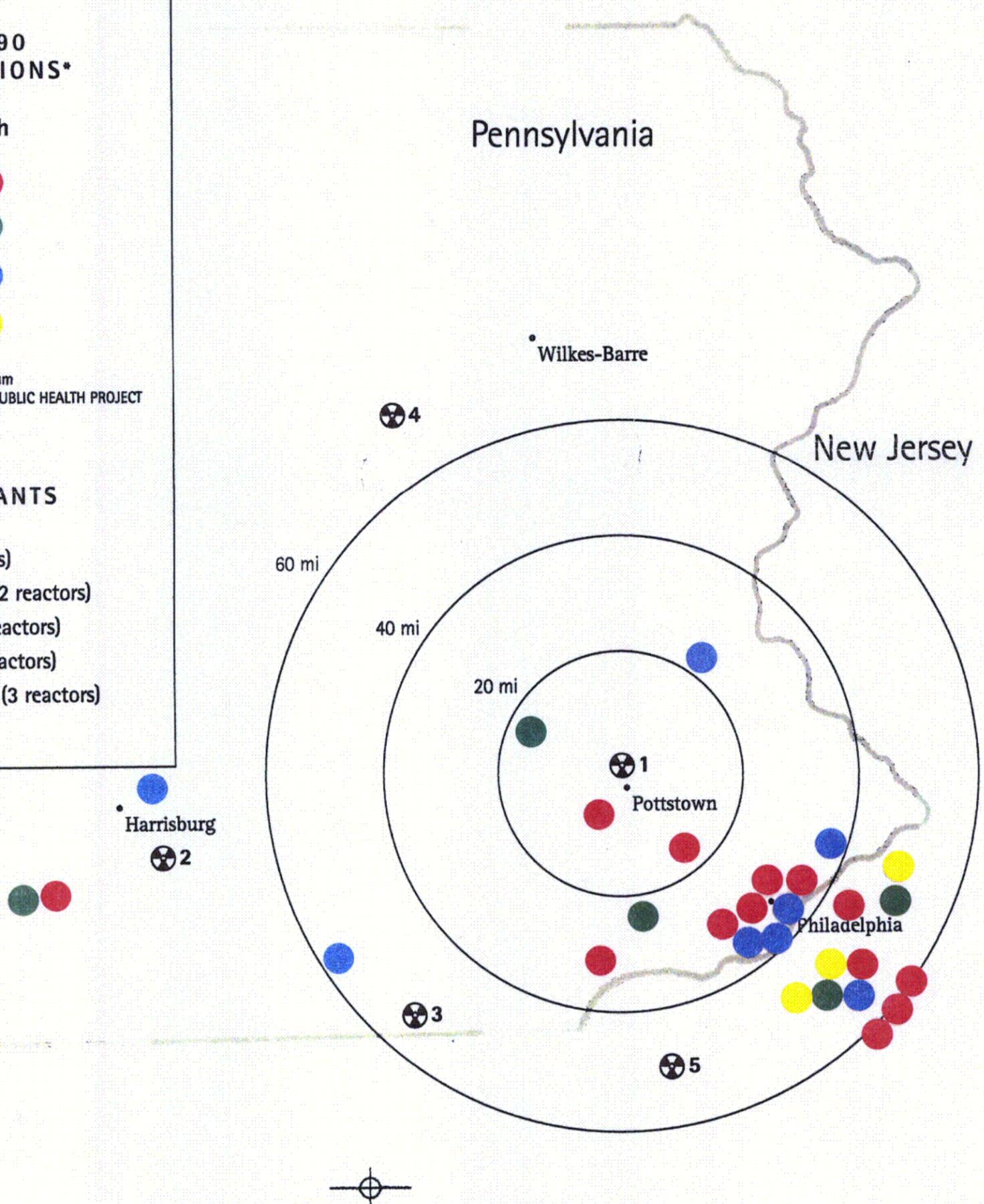
**STRONTIUM-90
CONCENTRATIONS***
in Baby Teeth,
Measured at Birth

- 3.00 or over ●
- 1.80 to 2.99 ●
- 0.60 to 1.79 ●
- under 0.60 ●

* picocuries Sr-90/gram calcium
SOURCE: RADIATION AND PUBLIC HEALTH PROJECT

☢ NUCLEAR PLANTS

- 1 Limerick (2 reactors)
- 2 Three Mile Island (2 reactors)
- 3 Peach Bottom (3 reactors)
- 4 Susquehanna (2 reactors)
- 5 Salem/Hope Creek (3 reactors)



NUCLEAR INFORMATION AND RESOURCES

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Comments by Paul Gunter

Peach Bottom EIS on License Extension, Delta, Pennsylvania, July 31, 2002

The Environmental Impact Statement Lacks an Adequate Evaluation of the Peach Bottom Primary Containment System

In 1972, the U.S. Atomic Energy Commission's (AEC) top safety advisory, Stephen Hanauer, in a confidential memo on the General Electric Mark I Containment (Pressure Suppression System) as used at Peach Bottom, concluded that the safety hazards inherent in the GE containment design were "preponderant," in excessive prevalence and recommended that the AEC not permit any more designs to be built.

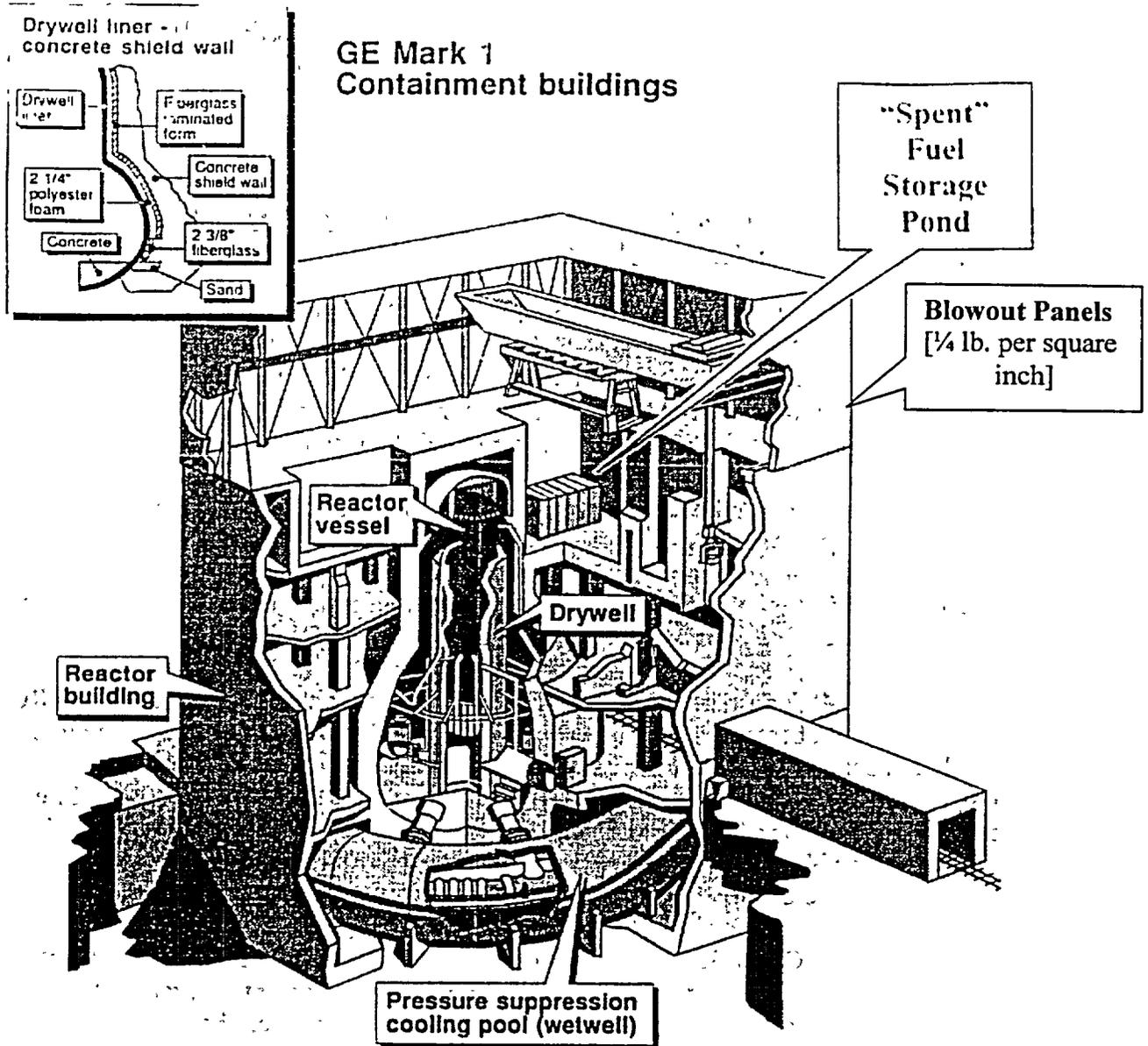
Joseph Hendrie, later to become Chairman of the AEC's successor agency, the Nuclear Regulatory Commission (NRC), wrote in an internal response that banning the Mark I pressure suppression containments "could well be the end of nuclear power" and "would generally create more turmoil than I can stand thinking about." The AEC then issued operating licenses for Peach Bottom Unit 2 in 1973 and Unit 3 in 1974.

By 1985, the Mark I Boiling Water Reactor (BWR) was again singled out by the NRC for special attention because of strong indications of a high probability that its containment would not survive several severe accident scenarios. NRC Director of Nuclear Reactor Regulation, Harold Denton, told an industry conference that the Mark I has a failure probability as high as 90% for some accident sequences such as an "over-pressure" accident. One NRC staffer described the containment's effectiveness in an "over-temperature" accident (core melt) as "like a hot knife through butter."

By 1989, the NRC and Boiling Water Reactor owners, including Philadelphia Electric Company, began work on the Mark I "Containment Improvement Program." With NRC approval Peach Bottom's operators installed a 8" diameter pipe or "hardened vent," that can be opened from the control room to vent the reactor's primary containment through the 300-foot tall stack, by-passing the station's radiation filtration system. Operators now have the option to deliberately vent Peach Bottom's containment to the environment through "controlled releases" of the tremendous internal pressure of a nuclear accident and its radioactive materials, such as the noble gases. Vent containment to save it.

A botched design, a proposed ban by its own safety officials, its primary containment system later verified to have irreversible design flaws, a principle safety boundary jury-rigged and Peach Bottom was given its first new lease on life albeit with a significant reduction in its often touted "defense-in-depth" hardware and philosophy.

Today, these badly designed and deteriorating reactors are being re-licensed for an additional twenty-year extension only at increased risk of adverse environmental impact to our safety and health, the economy, the water and land resources.



The GE Mark I Pressure Suppression Containment System is primarily comprised of a "Drywell" where in the event of an accident highly radioactive steam issuing from the reactor's Emergency Core Cooling System would be routed through large diameter pipes underwater into the pressure suppression cooling pond or the "Wet-well." First thought to be of sufficient volume to quench the steam from sustained accident mitigation, subsequent safety analysis found the wet-well too small and would more likely rupture with an ensuing core melt accident. The reactor building is even less robust as a "secondary containment." The upper section of the Mark I reactor building is not a high pressure-rated structure as evidenced by "blow-out" panels designed to pop-out at one-quarter pound per square inch (psi). Just behind these blow-out panels is the reactor refueling deck including the open surface of the 40-foot deep nuclear waste storage pond containing the reactor's high-level nuclear waste.

The Environmental Impact Statement Does Not Address Security Concerns Regarding the Structural Vulnerabilities of the Peach Bottom Elevated Irradiated Fuel Storage Ponds

Every refueling cycle, Peach Bottom's operators off load one third of the highly radioactive and extremely hot nuclear fuel from the reactor core and submerge it into 40-foot of water in elevated storage ponds for thermal cooling and radiation shielding for a minimal period of five-years. The Peach Bottom elevated storage ponds are located approximately between the 6th and 10th story of each reactor building. Referred to as the "spent" fuel pool in industry jargon, each storage pond is currently filled with hundreds of tons of high-level radioactive waste. As long as the reactors are operating they are constantly cycling thermally hot radioactive fuel rods into the attic of the reactor.

It is NIRS' stated concern that these elevated storage ponds are extremely vulnerable to a variety of acts of radiological terrorism. The Environmental Impact Statement does not adequately address the increased risk by significantly extending the Peach Bottom operating license and the adverse environmental impact associated with a successful terrorist attack on this vulnerable target.

As reported by NRC's own Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants published in October 2000, before the attack on the World Trade Center and the Pentagon, "Mark I and Mark II secondary containments generally do not appear to have any significant structures that might reduce the likelihood of aircraft penetration [of the spent fuel pool], although a crash into 1 of 4 sides of the BWR secondary containment may be less likely to penetrate because other structures are in the way of the aircraft." In other words, the Peach Bottom's 40-foot deep "spent" fuel pool shares only one of its walls in common with the exterior of the reactor building. NRC goes on to state "Based on studies in NUREG/CR-5042, Evaluation of External Hazards to Nuclear Power Plants in the United States, "it is estimated that 1 of 2 aircrafts are large enough to penetrate a 5-foot-thick reinforced concrete wall." The NRC report goes on to state, "It is further estimated that 1 of 2 crashes damage the spent fuel pool enough to uncover the stored fuel (for example, 50 percent of the time the location of the damage is above the height of the stored fuel.)"

As stated earlier, the top of the reactor building surrounding the opened surface of the "spent" fuel pool is basically sheet metal siding with a specified blow-out rating. What is the "blow in" rating is for this section of the Peach Bottom reactors? Where has NRC structurally analyzed this section of the reactor building and evaluated the degree of risk associated with extending the time at which we are vulnerable to the consequences of off site radiation releases from an act of radiological sabotage against Peach Bottom?

NIRS contends that the identified vulnerability is an unacceptable risk with unacceptable consequences in the clear and present danger of a Post-September 11th world. A re-licensing proceeding that turns a blind eye on this glaring vulnerability is a dangerous sham on the public health and safety and the environment.

Statement to the Nuclear Regulatory Commission
In the matter of Exelon Corporation's Application
To extend Operating License for another 20 years.

July 31, 2002

Gentlemen:

Peach Bottom, at this time, is one of seven nuclear power plants with active relicensing applications, with more in preparation. The others are Edwin E Hatch near Savannah GA, Turkey Point near Miami FL, Surry near Williamsburg VA, North Anne near Richmond VA, Catawba near Charlotte NC, and McGuire near Charlotte, NC.

Four plants have been licensed so far, and there is no indication that any statements in opposition to this dangerous practice has had any affect on the decision to relicense. As a matter of fact, not having any new nuclear power plants to work with the NRC's willingness to keep their "jobs" going, with the same disregard for safety concerns by opponents is quite clear.

Most licenses do not expire for another 15 to 20 years, Why now? To amortize plant debt further into the future, therefore padding corporate revenues today. The NRC knows well that some of these old, worn, dilapidated plants, originally licensed for only 30 years for a good reason will never see the end of this extension. We know it, the NRC knows it, its done with "smoke and mirrors" so easily detectable if one follows the Money.

To make my point. Cracks and leak and embrittlement of Material in aging plants is well known by the NRC. Nozzle cracking in pressurized water reactors started in the late 1980's. Only two months after Oconee was given the 20 year extension the nozzle cracks were discovered.. And again, after extension, at Entergy's Nuclear-One.

Two other plants, currently going through licensing process where the cracks were found are North Anna and Surry. *See McLomney*,

On March 7, 2002 FirstEnergy's Davis Besse nuclear power plant in Ohio experienced a problem which should alert the NRC to immediately halt all re-licensing. Boric acid corroded a 6 inch hole in the reactor vessel, leaving only a 3/8 inch metal cladding as protection against a reactor breach. The consequences could have been devastating.

I am certain you will not permit me to list here all the "close shaves" mishaps and the sloppiness with which this industry operates.

Stupid mistakes are a regularity

At the General Electric's Trojan Station a control room operator was listening to a baseball game while radioactive water was overflowing from a tank and flooding the adjacent building.

July 26, at Susquehanna a dry fuel storage cask had accidentally been filled with argon/helium gas in place of the correct 100% helium gas. Nobody knows what the effects are in the storage system.

Finally I would like to direct the NRC's attention to the International situation concerning nuclear power in general.

The French nuclear power program and Framatome have been held up as a marvel. But the chickens are coming home to roost. With an original price tag of \$4.3 BILLION the Superphenix ran for a total of 30 months over the dozen years since it went into operation. And the world's largest fast-breeder reactor is now closed for good.

By the way the breeder reactor in Japan fared no better. After a serious accident the investigating general manager committed suicide .

We are finally beginning to look into the Nuclear Industry's claim as to the actual contribution to the nations energy pool. The production of nuclear power is extremely energy intensive. The energy consumed by future needs such as shipping 77.000 ton of nuclear waste all over the country with much more being produced does not even figure into the calculations yet. After a trillion-dollar taxpayer investment it delivers little more energy than wood. Globally it produces less energy than renewables.

In the 1990's global nuclear capacity rose by 1% a year vs. 17% for solar cells (24% last year) and 24% for wind power. Last year California added more decentralized megawatts than its 2 giant nuclear plants

Does anybody really want these plants? Over the last few years Utilities have been trying to sell them. Main Yankee even created a web page complete with color photographs to promote the sale. There were no takers, the plant was "retired"

When will this country find its sanity. What are we doing to this planet. Plutonium is radioactive for 250.000 years some elements like iodine and Technetium wont decay for millions years. Its time to stop

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Pressurized water reactors have several dozen penetrations through the curved dome called the reactor vessel head. These penetrations allow the control rods inside the reactor core to be connected to the motors outside the reactor vessel that regulate their movement. The penetrations are sleeved with stainless steel, typically a material called Alloy-600. The reactor vessel head itself is made of carbon steel.

Because the penetrations pass vertically through a curved surface, stresses (forces) develop when the metal expands as it heats up. Because the penetrations intersect the curved dome at sharp angles instead of perpendicularly, these stresses hit some parts harder than other parts. Over time, the hard-hit parts can develop cracks. Once cracks develop, impurities in the reactor water such as boron tend to collect in the cracks and can accelerate corrosion.

The PWR nozzle cracking discovered last year at Oconee, then Arkansas Nuclear One then Three Mile Island then Crystal River then Davis-Besse surprised the NRC. The nozzles were being routinely inspected. But those inspections focused exclusively on an area called the J-groove weld area. Basically, this area is located on the inside of the domed reactor vessel head where the nozzle begins passing through it. The thought was that this was the most vulnerable location for cracks - if they developed anywhere, they'd develop here first. But that assumption turned out to be wrong. The nozzles were cracking on the outside first and then cutting across to the inside. Because people were looking in the wrong place, they did not find the cracks until reactor water started leaking out through the nozzle cracks.

BWRs like Peach Bottom have only a few reactor vessel head penetrations. Most of the BWR penetrations are through the domed lower head.

Earlier this year, the Quad Cities BWR in Illinois reported a problem to the NRC. One of the jet pumps located inside the reactor vessel was found to be broken. The jet pumps are located in the space between the core shroud (the metal cylinder around the reactor core) and the reactor pressure vessel. The jet pumps are cone-shaped tubes about 12 feet long. They are anchored in place with several metal brackets.

At Quad Cities, the upper metal bracket broke. The brackets had been frequently inspected. But as in the PWR nozzle case, these inspections were not of the entire bracket but only of the portion of the bracket thought to be most vulnerable to cracking. Once again, that assumption proved wrong and the bracket cracked in an uninspected location.

This trend concerns us. License renewal is based on having adequate aging management programs. But if near-misses continue to be caused by people looking in the wrong places, clearly aging management programs are not meeting the necessary safety expectations.

Public Hearing Testimony – July 31, 2002

To: Nuclear Regulatory Commission

Re: Peach Bottom Operating License Renewal - 2014 to 2034

From: The Alliance For A Clean Environment

P.O. Box 3063

Stowe, PA 19464

Presented by Donna Cuthbert, ACE Vice President

The Alliance For A Clean Environment (ACE) is a group founded in the Greater Pottstown Area, which is focused on harmful environmental health impacts in our region. Based on Peach Bottom's enormous radioactive threat to human health and safety, as well as long lasting destruction of our environment, we URGE the Nuclear Regulatory Commission to DENY the License Renewal for Peach Bottom.

Closing Peach Bottom, instead of renewing its license, is clearly in the best interest of health and safety of all residents in this region and the best economic interests of the public in general. The President keeps reminding us that our war on terrorism is not likely to end in the near future, IF ever.

- 1. Why would the NRC renew the license for such a major target for terrorists? The potential to destroy so much, and harm or kill so many people must be ended, not renewed.**
 - a. Even people in the Greater Pottstown area could have their health adversely impacted by a terrorist attack, or accidental disaster at Peach Bottom. Pottstown is only about 50 to 55 miles northeast of Peach Bottom.**
 - b. If prevailing winds blow at about 10 miles per hour, harmful radiation would arrive in Pottstown in as little as 5 hours after an accident.**
- 2. Why would the NRC renew the license for any nuclear plant, when it costs the public so much money to protect these facilities from terrorism?**
 - a. How long can we afford to absorb the cost?**

- b. Nuclear Power plants contain a toxic soup of extremely carcinogenic radiation.
- c. There is no way to protect people from the on-going radiation releases at a nuclear facility.
- d. There is no way to protect people from exposure as a result of a nuclear accident.
- e. Some kinds of radiation from nuclear power plants remain in the human body forever. Example - 1 atom of Strontium 90 sits in the body for life.

In the past 60 years, nuclear technology has created an array of problems that now rank among the most difficult, dangerous, and long-lived that the world has ever faced. These problems keep growing larger. Despite all the problems the nuclear industry has already created, it is redoubling its efforts to expand. How can the NRC permit this? It is time to close nuclear plants when permits end, not renew their threat to human health for another 20 years.

Peach Bottom Record

Up to 1993, Peach Bottom 2 and 3 released 2.21 curies of long-lived radioactivity into the air (19th highest of 72 U.S. plants). The total of liquid mixed fission products ranked 14th according to the NRC, in Radioactive Materials Released from Nuclear Power plants annual reports.

Peach Bottom has the potential to be an enormous health risk to over a million residents in the surrounding region. In fact, Pottstown, already hard-hit by high rates of diseases like cancer, is located about 50-55 miles northeast (downwind from Peach Bottom).

- **Pottstown residents could ingest airborne particulates routinely escaping from Peach Bottom.**
- **The Pottstown area gets much of its milk from dairies located in Lancaster and York Counties, near Peach Bottom. Residents, both near Peach Bottom and elsewhere like Pottstown, ingest Peach Bottom fallout in milk.**

It is irresponsible and illogical to extend the life of Peach Bottom from 2014 to 2034. ACE urges you to protect the enormous population which can be adversely affected by what happens at Peach Bottom, including all those in the Greater Pottstown Area, already facing a health crisis.

PLEASE VALUE HUMAN HEALTH AND THE ENVIRONMENT.

PLEASE DENY EXELON'S APPLICATION TO EXTEND THE PEACH BOTTOM LICENSES FROM 2014 TO 2034!

**EXELON STATEMENT
NRC MEETINGS
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
July 31, 2002**

Over the past year, Exelon Nuclear has submitted required information to the Nuclear Regulatory Commission (NRC) to support relicensing of Units 2 and 3 at Peach Bottom Atomic Power Station (PB). The documents substantiate why we feel the plant can continue to operate safely for 20 additional years after the current licenses expire in 2013 and 2014. In these submissions, we address safety, equipment operability, security and environmental issues, among others. Each requirement ensures long-term safe operation of the plant.

We began this effort in March 1999, and submitted our relicensing proposal to NRC in July 2001. The License Renewal Application contains two parts, one dealing with safe operation of the plant and the second dealing with the impact on the environment of extending the operation of the plant for an additional 20 years.

On the safety front, we must demonstrate that we can effectively manage the aging of plant systems, structures and components. Aging management includes inspections of equipment, and also maintaining proper chemistry control of cooling water systems to prevent aging of the systems. This report is currently under review by the NRC, and they are seeking additional information from Exelon Nuclear in some areas. The draft of the NRC Safety Evaluation Report will be completed in September.

On the environmental front, Exelon submitted an environmental report addressing all the potential impacts identified by the NRC. The NRC has previously reviewed 69 of these potential impacts and generically concluded that the impact of continued operation will be small for these 69 issues. Exelon determined that the NRC's generic conclusions are applicable to PB, and the NRC has reached the same conclusion.

Exelon also analyzed the 23 potential impacts that must be reviewed on a plant specific basis. Exelon has concluded in the Environmental

Report submitted to the NRC that the impact of these issues will be small during the period of extended operation. These include water discharge issues, use of groundwater, impacts on fish and wildlife, heat shock in the cooling pond, water use conflicts, socioeconomic impacts on public services, land use, housing and roads and protection of threatened and endangered species.

NRC reviewed Exelon's Environmental Report, and did an independent check. They then reached their conclusions and published the draft SEIS, which is the subject of the July 31 meeting. They concluded that any impacts from license renewal at PB would be small.

At the July 31 meetings, the NRC will take comments. They will also take comments in response to a Federal Register notice. They address these comments, and then issue the final SEIS.

Exelon Nuclear works hard to ensure all environmental requirements are met and exceeded in plant operations. We quickly address problems if they arise. We also plan ahead to meet changing standards to ensure protection of public health and the environment surrounding our facilities. We're confident that Exelon will meet the long-term changing demands on the nuclear industry to do what is best for the environment, while ensuring safe and productive operations, and we will stay prepared to an open dialogue with the NRC to make any needed further modifications as they arise.