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the Draft Environmental Impact Statement
for an Early Site Permit at the PSEG Site

Afternoon Session

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
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PUBLIC MEETING TO DISCUSS
THE DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR AN EARLY SITE PERMIT AT THE PSEG SITE

+ + + + +

Wednesday,

October 1st, 2014

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Afternoon Session

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Carneys Point, New Jersey

The Public Meeting was held at 1:00 p.m. at the Performing Arts Theater (Davidow Hall) at the Salem Community College, 460 Hollywood Avenue, Carneys Point, New Jersey, Chip Cameron, Facilitator, presiding.

APPEARANCES:

- CHIP CAMERON - FACILITATOR
- JENNIFER DIXON-HERRITY - NUCLEAR REGULATORY COMMISSION
- ED BONNER - ARMY CORPS OF ENGINEERS
- ALLEN FETTER - NUCLEAR REGULATORY COMMISSION
- SHERLYN BARROLA-NUCLEAR REGULATORY COMMISSION

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A-G-E-N-D-A

WELCOME AND OPENING REMARKS	4
JENNIFER DIXON-HERRITY	8
ED BONNER	10
ALLEN FETTER	13
PUBLIC COMMENTS:	22

2

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

1:00 p.m.

FACILITATOR CAMERON: Good afternoon, everyone. My name is Chip Cameron and I'd like to welcome all of you to the public meeting today.

And I'm pleased to serve as your facilitator for this meeting today. And in that role I will try to help all of you to have a productive meeting this afternoon.

The topic of today's meeting is the Draft Environmental Impact Statement prepared by the United States Nuclear Regulatory Commission, the NRC, on an Early Site Permit application that the NRC received from the PSEG Company for a new reactor to be placed at the Hope Creek and Salem Nuclear Energy Station.

And the Draft Environmental Impact Statement is one important part of the NRC's review process on whether to grant the Early Site Permit.

And what I would like to do is just spend a few minutes on some meeting process issues. I would like to tell you about trajectories that we need, the format we need, the ground rules, simple ground rules, to assure that we have a productive meeting this afternoon.

And the purpose for today's meeting. And

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1 I would note, in terms of the speakers that, in
2 addition to the NRC, the United States Army Corps of
3 Engineers plays an important part in the Early Site
4 Permit review.

5 They are the cooperating agency on the
6 preparation of the Environmental Impact Statement.
7 And we will have someone from the Corps talking to you
8 today, and I will introduce them in a few minutes.

9 In terms of the objectives, there are two
10 objectives. One is to give a clear explanation of the
11 Environmental Impact Statement process, and some of
12 the findings in the Environmental Impact Statement.

13 And I want you to respond to what happens.
14 This Environmental Impact Statement cannot be
15 finalized until the NRC has considered all of the
16 public comments that come in on this.

17 And the staff will tell you a little bit
18 about the process for doing that. But in addition to
19 why we are here today, the NRC is asking for public
20 comments on the Draft Environmental Impact Statement.

21 And at this point I will assure you that
22 anything, that you say today, in the comments that we
23 hear today, will be treated the same way as a written
24 comment.

25 And, also, feel free to, if you speak

1 today, to amplify with a written comment, if you would
2 like to do that.

3 In terms of format we are going to have
4 three brief presentations, for you, today. And,
5 after that, we have a short amount of time for some
6 clarifying questions.

7 I thought we might have more time, but we
8 did have a lot of people sign up, today, besides those
9 who have pre-registered.

10 And the primary purpose, the second
11 objective for the meeting, is to listen to your
12 comments and concerns on the Draft Environmental
13 Impact Statement.

14 So we want to make sure that we do that.
15 But if you would like to know something more about
16 that, we can at least take a few questions, before we
17 go into the comments.

18 And in terms of ground rules, I would just
19 ask you to hold your questions, that you have, until
20 all of the three presentations are done, so that you
21 will have a comprehensive idea before we go to the
22 questions.

23 And the second ground rule is that we ask
24 that we only have one person, at a time, speaking.
25 Two important purposes for that. One is so that we

1 can give complete attention to whomever has the floor
2 at the moment.

3 And, secondly, so that we can get what I
4 call a clean transcript. We are taking a transcript
5 today, and we have Ed Johns as our stenographer, who
6 is going to be doing that for us.

7 And only one person speaking at a time
8 will be easy for Ed to know who that is. And that
9 transcript is going in the record of the meeting, but
10 it also the NRC's record of the meeting.

11 And I would ask you, thirdly, to be brief
12 in your comments. I would ask you to hold them to
13 three to five minutes, and if I were to ask you to
14 relinquish the podium, I apologize for that in
15 advance.

16 And, finally, although I don't think it
17 needs to be said, to this audience, but I always like
18 to say it, is that -- and this is for all of us, not
19 just the public, but to extend everyone here -- you
20 may hear opinions, today, that are different from your
21 own.

22 But just please respect the person that is
23 giving that opinion. And I should note that the NRC,
24 and Corps of Engineers, are here today to listen
25 carefully to your comments.

1 They are not going to be responding to
2 anything that you say, from the podium. But they will
3 carefully consider and evaluate those comments, or any
4 questions that you might ask from the podium.

5 They will carefully consider that in
6 preparing the Final Environmental Impact Statement.

7 And let me introduce our speakers today.
8 We have Jennifer Dixon-Herrity, here. And Jennifer is
9 the Branch Chief of the Environmental Project Branch
10 in the NRC's Office of New Reactors.

11 So we will be hearing from Jennifer first.
12 Then we will be hearing from the Corps of Engineers,
13 Ed Bonner, he is right here.

14 Ed is a Senior Biologist in the Regulatory
15 Section of the Corps of Engineers District Office in
16 Philadelphia. So he will be telling you about what
17 the Corps of Engineers is looking at, in terms of the
18 Early Site Permit.

19 And, finally, you will hear from Allen
20 Fetter. Allen is the Environmental Project Manager
21 for this Early Site Permit, and he works through
22 Jennifer's branch, at our new address at the NRC.

23 We also have a number of other NRC staff
24 and consultants, here, to make sure that we can answer
25 all of your questions. And they are actually doing an

1 evaluation, this week, down in the site.

2 And they will be here after the meeting,
3 if you want to talk some more, with them, about
4 anything. And one person I would like to introduce is
5 Sherlyn Ibarrola.

6 And Sherlyn is one of the NRC's resident
7 inspectors, part of the NRC staff, she works at the
8 reactor site, and makes sure that NRC regulations are
9 being followed.

10 So if you have any questions about the
11 operating reactor, she will be here, after the
12 meeting, to talk to you about that.

13 And I think we will get started. Now, I
14 confess that that is all I need to say, and we are
15 going to go to Jennifer at this point.

16 MS. DIXON-HERRITY: Thank you very much,
17 Chip. As he said, my name is Jennifer Dixon-Herrity,
18 I'm the Chief of the Environmental Projects Branch
19 with the Nuclear Regulatory Commission.

20 And I can use the clicker, so -- I was
21 going to go through the purposes of the meeting. As
22 Chip has already covered some, but we are going to
23 describe how the Nuclear Regulatory Commission's
24 review process, leading up to today, worked.

25 We are going to provide a schedule, from

1 this day forward, on how things are going to progress,
2 as we finish the review.

3 We are going to share our preliminary
4 recommendation with you. We are going to describe how
5 you can provide comments, because you can come up and
6 speak today, or we are taking comments in writing.

7 And then we are going to listen to and
8 gather your comments.

9 The Nuclear Regulatory Commission is the
10 lead agency in the preparation of this Environmental
11 Impact Statement, for the National Environmental
12 Policy Act.

13 The U.S. Corps of Engineers is a
14 cooperating agency in the preparation of the
15 Environmental Impact Statement.

16 The Corps evaluation and decision on
17 whether to issue the Department of Army permit, will
18 be documented as a separate Record of Decision, no
19 earlier than 30 days after issuance of their Final
20 Environmental Impact Statement.

21 And that Record of Decision, it will
22 reference any information that they have, that is not
23 included in the Final Environmental Impact Statement,
24 and present any additional information required by
25 them, to support their permit decision.

1 And, with that, I'm just going to have Ed
2 come up and give his presentation, followed by Allen.
3 Thank you.

4 MR. BONNER: Let me put my other set of
5 eyes on. Which button advances?

6 MS. DIXON-HERRITY: One of the arrows.

7 MR. BONNER: One of the arrows, all right.

8 As mentioned, the NRC is the lead federal
9 agency. And the Corps of Engineers is a cooperating
10 agency.

11 And the value to doing it as a cooperating
12 agency, obviously, it allows us to share our
13 resources. And, hopefully, the document that we
14 prepare in the end has, hopefully, addressed all the
15 issues that both agencies would be required to address
16 in our independent permit decisions.

17 But we all have separate laws that we have
18 to deal with. The Corps of Engineers has two primary
19 laws that we are responsible for. The first, and the
20 oldest, Section 10 of the Rivers and Harbor Act, goes
21 all the way back to 1899.

22 Under that Act, the Corps regulates
23 activities in, or affecting, navigable waters. That
24 means anything in, over, or under a navigable water is
25 subject to our review.

1 The other law, known as Section 404 of the
2 Clean Water Act, which dates back to, its initial
3 issuance in 1972, regulates the discharges of dredged,
4 or fill material, into waters of the United States.

5 A slightly broader scope in geographic
6 area. It also includes wetlands, under the 404
7 program.

8 But we administer both of these laws
9 simultaneously, under one permit application review
10 process.

11 As a federal agency all of our decisions
12 have to be compliant with NEPA. Hence this DEIS
13 process, in cooperation with the NRC.

14 But a part of our process, as well as
15 compliance with NEPA, the Corps has what are known as
16 the 404(b)(1) guidelines. These are a set of
17 guidelines that we are required to address, when we
18 are evaluating any application involving Section 404
19 of the Clean Water Act.

20 So any permit decision must comply with
21 those 404(b)(1) guidelines. In addition to the
22 guidelines, our program has what are known as public
23 interest review.

24 This is a broad scope of, basically, any
25 issues that may affect the public, navigation, mineral

1 resources, wetlands, aquatic resources, terrestrial
2 resources.

3 It is a very broad range of issues. We
4 have to address that individually, and independently,
5 in our own permit decision.

6 So there are a number of details that we
7 have to go through in making our permit decision.
8 That process involves public participation.

9 And I would mention, and reiterate, that
10 public participation is critical in our process. You
11 have been invited, here, our hope is that when we
12 prepare these documents, they are done completely, and
13 adequately, and address and identify all the issues
14 possible.

15 This is an opportunity, for the public, to
16 take a look at those issues and what has been
17 documented, and then give us your comments. And those
18 comments will be part of the Final Decision process.

19 And on the top of the screen, if I advance
20 it, there you go -- excuse me. Our file action gives
21 you a bunch of those letters, CENAP-OP-R, followed by
22 2009-157.

23 As a bureaucrat, the CENAP means a whole
24 lot to me. And for those of you, who might be
25 submitting comments to us, it is important that you

1 put those numbers on any correspondence that you send
2 to us.

3 Because the volume of material, that comes
4 into our office, makes it very difficult, sometimes,
5 to track those documents. So we ask that you use
6 those reference numbers any time you submit to us.

7 Bryan Bellacima, who is also here, is the
8 primary project manager in our office. And his email
9 and phone number are up there as well.

10 If you should have questions, at any time,
11 feel free to contact us. The comment period for our
12 public notice expires on October 4th.

13 We express that 30 day comment period,
14 just as a measure to make sure that we get comments in
15 a timely fashion. If we get comments, after that, we
16 are not going to lock the doors.

17 But the sooner your comments are in, the
18 better we can be assured that we have time to
19 adequately address those questions and comments, and
20 put them into the public record.

21 We ask that your comments be as specific
22 as possible, so that we are able to address what our
23 response would be in that.

24 And, with that, I will turn the table over
25 to the next speaker.

1 FACILITATOR CAMERON: Thank you. Thanks
2 very much. Next is Allen Fetter.

3 MR. FETTER: All right, good afternoon
4 everyone. Allen Fetter from the NRC. I have been the
5 Environmental Project Manager, on this project, since
6 the application was accepted, back in 2010, except for
7 a brief period, where I was acting in a different
8 capacity.

9 It is good to be back. The last time I
10 was here was during the scoping meeting. And we
11 addressed scoping comments in the preparation of the
12 Draft Environmental Impact Statement.

13 I guess my next technological challenge is
14 to advance this slide. Here we go.

15 For those of you who do not know, the
16 Nuclear Regulatory Commission mission is to protect
17 public health and safety, promote common defense, and
18 security, and protect the environment.

19 We are an independent federal agency.
20 That is we are not a cabinet level agency, where the
21 President selects a new head of cabinet director.

22 And we all have almost 40 years experience
23 regulating operating reactors, and other civilian uses
24 of nuclear materials.

25 Now, some folks have said, so there is

1 going to be a reactor built at this site. Actually,
2 the Early Site Permit is a process whereby PSEG Power,
3 and PSEG Nuclear, known as PSEG, has submitted an
4 application for an Early Site Permit.

5 So an Early Site Permit, or ESP, is a
6 Commission approval for a site, for one or more
7 nuclear reactors, power facilities, and a mandatory
8 hearing occurs prior to a decision on the permit
9 issuance.

10 Now, the issuance of -- if we end up
11 issuing an Early Site Permit, it does not authorize
12 the building of a new nuclear plant. Before a new
13 nuclear plant is built, an Early Site Permit holder
14 must obtain a combined license, or construction
15 permit, and operating license.

16 And there are two reviews for the PSEG ESP
17 application, a Safety Review, and an Environmental
18 Review. And, also, I wanted to introduce, point out
19 Dr. Presenta Cholly, who is in the audience, here. He
20 is the safety project manager on this project.

21 And for the site evaluation a set of
22 bounding reactor design parameters were used. Also
23 known as the plant parameter envelope. And I won't go
24 into detail here just to get through the slide.

25 But if anyone has any questions about

1 that, I would be happy to answer that after this
2 meeting.

3 So, as I said, we were last here back in
4 October of 2004, when we had a scoping meeting, we had
5 a Notice of Intent to conduct scoping, and prepare an
6 EIS, was in 2010.

7 The scoping period lasted from October
8 2010 through December 2010. And our meeting was
9 November 4th, rather.

10 For this Environmental Impact Statement we
11 published a Notice of Availability, in the Federal
12 Register, on August 22nd, 2014.

13 And the comment period started at that
14 time. And comments can be received, by the NRC, up
15 through November 6th, 2014.

16 And, like Ed said, in order to consider
17 your comments we would like to receive them by
18 November 6th, but we are not going to shut the door.

19 But I encourage you, I am not encouraging
20 you to miss the deadline.

21 And our Final Environmental Impact
22 Statement, which will consider the comments, is
23 scheduled to be published in September 2015.

24 Now, in developing the EIS, we looked a
25 number of -- this shows not all of the resource areas,

1 but many of the resource areas that we look at.

2 I'm not going to read them all of to you,
3 but just take a look at this slide, and you can see
4 what we look at.

5 So in the Environmental Impact Statement
6 we worked to quantify the impacts. And we have
7 established three levels of impacts.

8 And small is identified as the effect is
9 not detectable, or is so minor that it will mean
10 neither destabilize, nor noticeably alter any
11 important attribute of the resource.

12 Now, moderate, the effect is sufficient to
13 alter noticeably, but not destabilize important
14 attributes of the resource.

15 And large is, the effect is clearly
16 noticeable, and sufficient to destabilize important
17 attributes of the resource.

18 So now I'm going to go over some of the
19 specific areas we looked at. And here is water
20 resource impacts.

21 Our review team, and our review team was
22 the NRC staff and the Corps, and also members of the
23 DOE laboratories, worked on evaluating the potential
24 impacts on the use and quality of both surface and
25 groundwater.

1 Which were determined to be small for both
2 operating, building and operation. Surface and
3 groundwater use would comply with permitted
4 conditions.

5 And PSEG would comply with state and
6 federal permits for discharge into the Delaware River
7 and follow best management practice.

8 Now, there are other potential impacts to
9 waters of the U.S. The PSEG site, which would be the
10 nuclear power plant barge slip, and associated
11 infrastructure, there would be approximately 108 acres
12 of fill impact, that would be permanent, and 32 acres
13 would be temporary.

14 And there would also be some dredging
15 required for the barge slip. For the causeway, which
16 is part of, which is proposed along Money Island Road,
17 to connect the site, that would involve 23 acres of
18 fill impact, which would be permanent, and 20 acres of
19 temporary fill impact.

20 And the adjacent, offsite area, there
21 would be no fill impact, permanent, but 30 acres of
22 temporary impacts.

23 And structures, in navigable waters, would
24 include the cooling water intake structure, and
25 associated dredging, and the cooling water discharge

1 structure, and associated dredging.

2 Now, for the ecological impacts, we
3 evaluated the impacts on birds, fish, reptiles,
4 amphibians, and other wildlife, plants and wetlands on
5 the PSEG site, and nearby areas.

6 The review team consulted with the New
7 Jersey Department of Environmental Protection, U.S.
8 Fish and Wildlife Service, and U.S. National Marine
9 Fishery Service.

10 The review team concluded that impacts for
11 terrestrial ecology would be moderate during building
12 and small during operation.

13 Impacts on aquatic ecology would be small
14 during both building and operation. And there are a
15 couple of the species that have been identified in the
16 area.

17 Radiological impacts. Impacts include all
18 members of the public, plant workers, and wildlife.
19 Doses to members of the public, from operations, would
20 be small and below regulatory limits.

21 Doses to workers would be small, and below
22 regulatory limits. And doses to wildlife would be
23 small and below relevant guidelines.

24 Another aspect that we look at, during the
25 building and operation of a plant, would be

1 socioeconomics and environmental justice.

2 Socioeconomics includes impacts on taxes,
3 housing, education, traffic, aesthetics, and public
4 services.

5 The review team found that adverse impacts
6 would be small to moderate for building and operation.
7 And beneficial economic impacts, from tax revenues,
8 would be small to moderate for building, and small to
9 large for operation, depending on the county.

10 Environmental justice review focuses on
11 low income and minority populations. The staff found
12 no evidence that minority, or low income, populations
13 would be disproportionately affected during building
14 or operation of a nuclear plant.

15 Now, cumulative impacts include impacts
16 from the proposed action, that is the ESP issuance,
17 and other past, present, and reasonably foreseeable
18 actions.

19 Examples include the existing Salem and
20 Hope Creek Generating Stations, Camp Pedricktown
21 redevelopment, and the Delaware river main channel
22 deepening project.

23 Cumulative impacts, adverse impacts, range
24 from small to moderate for most resource areas.
25 Cumulative socioeconomic impacts would range from

1 moderate to adverse, moderate to adverse traffic and
2 aesthetics, to large beneficial tax revenues.

3 The other aspect that was looked at was
4 need for power. The review team relied on PJM's
5 regional transmission organization, and annual
6 planning documents for the determination of need.

7 The review team determined that the
8 projected demand, and capacity, in 2028, indicated
9 approximately 3500 megawatts of power to meet demand,
10 included positive need for the power in the PSEG
11 market area.

12 For alternatives, alternatives that we
13 look at, in Chapter 9 of the EIS, and we look at
14 alternative energy, alternative sites, and alternative
15 systems design.

16 For alternative energy, wind, solar,
17 biomass, none would be feasible based on alternatives,
18 none of them would be environmentally preferable.

19 And for alternative sites, the PSEG site
20 was compared to four alternative sites. The NRC staff
21 analysis showed none of the alternatives would be
22 environmentally preferable to the PSEG site.

23 And for alternative system designs, no
24 alternative cooling systems would be environmentally
25 preferable to the proposed designs.

1 So the preliminary recommendation, the NRC
2 staff's preliminary recommendation, to the Commission,
3 is that the ESP be issued.

4 The adverse environmental impacts are
5 expected to range from small to moderate. None of the
6 feasible energy alternative sources evaluated would be
7 environmentally preferable.

8 And the NRC determined that none of the
9 alternative sites would be environmentally preferable
10 to the PSEG site.

11 So if you have not taken a look at the
12 Environmental Impact Statement, yet, you can contact
13 me to get a copy. We also have copies of the reader's
14 guide, here at the table out front. Maria Braun hosts
15 that.

16 Or if you would like a hard copy, I can
17 get those made as well. But there is accessible on-
18 line, in addition to the CD that we hand out, the web
19 address is up here. It is, also, in the handouts we
20 have. So you don't have to frantically write this
21 down.

22 And there is also a hard copy at the Salem
23 Free Public Library, located in Salem, New Jersey.

24 So submitting comments on the Draft EIS,
25 if you would like to submit electronic comments, with

1 any attachments, up to about 10 megabytes, you can
2 submit them to the PSEGSite.espeis@nrc.gov.

3 The other way is through regulations.gov,
4 with the web address up there. And you, when you
5 enter that website you search for the docket number up
6 there, NRC2004-0149.

7 And if you prefer regular mail, we have
8 that option as well to Cindy Bladey, the Office
9 Administration, the address is up there.

10 And, as I have said before, comments are
11 due by November 6th, 2014.

12 Thank you very much.

13 FACILITATOR CAMERON: Okay, thank you
14 Allen and all of you for those presentations, and that
15 information.

16 Before we go to comments, does anyone have
17 any clarifying questions that we can answer before we
18 go to the public comments?

19 (No response.)

20 FACILITATOR CAMERON: We are going to
21 start with, our first commenter, Mayor Sean Elwell.
22 And then we are going to go to Michael Egenton and
23 then to Jim Applegate and Norman Meadow. This is
24 Mayor Elwell.

25 MAYOR ELWELL: I get the bat lead off?

1 FACILITATOR CAMERON: Yes, you do.

2 MAYOR ELWELL: No pressure. Good
3 afternoon, my name is Sean Elwell, I'm the Mayor of
4 Elsenberg Township. And, actually, it is more of a
5 question slash comment.

6 Obviously the question that Elsenberg
7 Township is curious about is the traffic flow
8 associated with this.

9 The Environmental Impact Statement
10 discussed a lot about the causeway, stopping at Money
11 Island, Mason Point. But we are interested in what,
12 potentially, that looks like from that point forward,
13 and how that impacts our residents.

14 So our hope would be to have some dialogue
15 with our residents, and some PSEG staff, to discuss
16 that moving forward.

17 That is the only comment that I have at
18 this point. Thank you.

19 FACILITATOR CAMERON: Great, thank you,
20 Mayor. And Michael? And I'm sorry if I mispronounced
21 your name.

22 MR. EGENTON: I get that all the time.

23 Thank you very much. I'm Michael Egenton,
24 for the record, the last name is spelled E-G-E-N-T-O-
25 N. I'm the Senior Vice President for the New Jersey

1 State Chamber of Commerce in Trenton.

2 Just by way of background, our
3 organization was created in 1911 by none other than
4 Thomas Edison, who got together with the business
5 leaders, here, 100 years ago in the State of New
6 Jersey.

7 And our organization is recognized as the
8 independent voice of business in New Jersey. Our
9 broad-based membership ranges from the Fortune 500
10 companies, all the way down to the small mom and pop
11 proprietorships, representing every corner of New
12 Jersey, every industry.

13 Our members provide jobs for over a
14 million people in the Garden State. As one of our
15 founding principles, the State Chamber of Commerce
16 continues to work towards streamlining the regulatory
17 process, while striving to maintain the economic
18 vitality of our members.

19 Jobs is foremost and critical to this
20 state, and our organization.

21 I'm here, today, to express the State
22 Chamber's support for the prospect of having PSEG
23 build and operate an additional nuclear generating
24 plant, on a site adjacent to PSEG's existing Hope
25 Creek and Salem Nuclear facility in Salem County.

1 We commend the NRC's efforts, to date, for
2 its thorough analysis in consideration of this
3 potential new nuclear power plant at the PSEG site.

4 Nuclear energy continues to be an
5 important part of America's, and New Jersey's diverse
6 energy portfolio, providing reliable baseload
7 electricity around the clock.

8 Nuclear generation provides nearly 20
9 percent of our country's electricity and more than
10 half of the electricity used in New Jersey.

11 I would like to add that I'm the longest
12 serving member of the New Jersey's Clean Air Counsel,
13 a group appointed, by the Governor, that makes
14 recommendations to the State of New Jersey on matters
15 and programs pertaining to air pollution control.

16 While there has been considerable public
17 dialogue and debate, about the use and benefits of
18 nuclear power, no one can argue that nuclear power is
19 the largest source of electricity that does not emit
20 any air pollution.

21 While emitting no carbon, or other
22 pollutants, nuclear generation provides tremendous
23 economic and job benefits.

24 The new plant will offset the potential
25 generation of nearly 15 million tons of CO2 in a given

1 year.

2 Additionally, the business community
3 recognizes that the first commercial nuclear power
4 plant, in the United States, located here in New
5 Jersey, Oyster Creek, is now scheduled to be
6 decommissioned and retired in 2019.

7 Making the urgency of a new nuclear
8 generating facility that much more critical.

9 The construction of a new nuclear
10 generating facility will give an important boost to
11 job creation, and economic growth, here in New Jersey.

12 Making both a near term and lasting
13 contribution to the local, state, and regional
14 economy. These beneficial economic impacts are
15 especially impressive when examined in further detail.

16 First, in terms of job creation, the new
17 plant is likely to create 600 jobs to staff the
18 plant's workforce; 4,100 construction jobs to build
19 the plant, and an additional 586 local and 4,000
20 regional indirect jobs during construction; and 185
21 local, and 1,265 regional indirect jobs, during
22 operation, due to a multiplier effect.

23 The economic value of these jobs will also
24 result in a projected one million dollars, per year,
25 in additional income tax revenue, and projected 23

1 million dollar per year in sales tax revenue, for the
2 State of New Jersey.

3 And, certainly, I can tell you first-hand,
4 working on a state budget year after year, we can
5 certainly use that.

6 The new plant will also generate business
7 for other firms that supply PSEG with various products
8 and services. These purchases are expected to amount
9 to 339 million dollars, within New Jersey, and 15
10 million dollars per year within the four county local
11 economic area.

12 PSEG's Hope Creek and Salem Nuclear
13 Facilities are already a primary economic engine for
14 their communities. And the building and operation of
15 a new plant will further enhance the company's key
16 role.

17 PSEG is the largest employer in Salem
18 County, with more than 1,500 employees. Moreover,
19 PSEG is a significant contributor to many local
20 charities, educational and civic organizations.

21 The company also plays an active role in
22 sponsoring educational opportunities for students as
23 part of its efforts to prepare the workforce of the
24 future.

25 It is also noteworthy that PSEG's an

1 industry leader in practicing responsible
2 environmental stewardship.

3 That same commitment will extend to the
4 new plant, in its planning, construction, and ultimate
5 operation, if approved by the NRC.

6 The Salem generation station, in response
7 to the New Jersey Pollutant Discharge Elimination
8 System, an acronym we know in Trenton and NJPDES
9 permit, embarked on an unprecedented effort to help
10 restore a portion of the Delaware Estuary, by
11 establishing the Estuary Enhancement Program in 1994.

12 Today the EEP is recognized as the largest
13 privately funded program, of its kind, in the country
14 and, perhaps, the world with more than 20,000 acres of
15 salt marsh and adjacent uplands being restored,
16 enhanced, or preserved.

17 Finally I would be remiss if I didn't add
18 a little interjection, here, on this overarching
19 issue. I would like to add that our New Jersey
20 Congressional Delegation, all of Congress, they need
21 to address the recycling of nuclear fuel.

22 Right now other countries are allowed to
23 do this. We are behind the eight ball. We must have
24 that ability to do this, here in the United States.
25 The federal government must have a stable public

1 policy supporting recycling that enables companies to
2 make long term capital intensive investments.

3 The support that you will hear, today,
4 from other various business, environmental and
5 community groups, is a testament to such a commitment.

6 Again, on behalf of the business
7 community, the New Jersey State Chamber of Commerce is
8 proud to provide its support for the new power plant.
9 And I would like to extend my appreciation for our
10 ability to provide our comments and insight.

11 Thank you, sir.

12 FACILITATOR CAMERON: Thank you. Now is
13 Mayo Van Rossum, then we will go to Jim Applegate,
14 Norman Meadow, and Tom Brunswick. Maya?

15 MS. VAN ROSSUM: Good afternoon, my name
16 is Maya Van Rossum. I'm a Delaware Riverkeeper. And my
17 organization is the Delaware Riverkeeper Network.

18 And we work throughout the entire Delaware
19 River watershed championing the rights of our
20 communities to a Delaware River and tributary streams,
21 that are free-flowing, clean, healthy, and abundant
22 with a diversity of life.

23 The Delaware Riverkeeper Network is
24 opposed to proposed Salem 4. The nuclear operations
25 at PSEG already has on Artificial Island, already

1 inflict an incredibly harmful burden on the resources
2 of the Delaware Estuary.

3 For example, the over 3 billion Delaware
4 River fish, a year, that they kill needlessly, with a
5 simple change in operation, they could reduce their
6 fish kills by over 95 percent, but they choose not to
7 do so.

8 We believe that, before PSEG should be
9 allowed to construct another burdensome facility on
10 Artificial Island, or anywhere within the Delaware
11 Estuary before it is even considered, they must be
12 forced to minimize the adverse environmental impact
13 their existing facilities already have.

14 Including their fish kills, their harmful
15 imprint on our wetlands, the water quality impacts
16 they have on the Delaware Estuary waters, and more.

17 I, the Delaware Riverkeeper Network is
18 going to be submitting significant written comment,
19 both to the Army Corps of Engineers, as well to the
20 NRC.

21 So I'm not going to take more time than
22 you have allotted here today. But I did want to raise
23 one issue for the record, today.

24 And that is the concern we have about the
25 location being proposed for construction of this new

1 nuclear plant.

2 They are proposing to construct Salem 4 in
3 a reach of the river that already is well recognized
4 to be increasingly impacted by climate change, sea
5 level rise, and storm surge, in the coming years.

6 We already have two facilities located in
7 this area that we know, based upon existing and
8 emerging science, is going to be subject to dangerous
9 inundation by flood waters, or surrounded by flood
10 waters, raising the potential for catastrophic events.

11 And, also, preventing the ability of
12 emergency services, and equipment, to arrive at the
13 site if, in fact, we do have a catastrophic event and
14 we need those services provided.

15 So when one looks at all of the inundation
16 maps that are coming out, from the credible scientific
17 research, we see that already, by 2050 when we have
18 sea level rise, and we have storm events, where these
19 nuclear facilities are going to be located, on
20 Artificial Island will genuinely, and literally, be an
21 island if they are not inundated.

22 So we have this heightened risk of, again,
23 catastrophic event, and an inability of emergency
24 services to appropriately respond.

25 And we think that, that has not been

1 appropriately addressed in the NRC review.

2 We also believe that the alternative
3 energy options have not been given fair or due
4 consideration. Truly sustainable energy options,
5 really, are available here in New Jersey, here in the
6 Delaware River region, including solar panels,
7 geothermal, some very interesting water technologies.

8 And there is more opportunities coming out
9 every day. And we do not believe that they have been
10 given due and fair consideration, by the NRC in the
11 Environmental Impact Statement that has been put
12 forth.

13 And I would just like to say, in
14 conclusion, when it comes to jobs, there is no bigger
15 job creator, in our region, than our healthy Delaware
16 River and its water quality, the wetlands, the aquatic
17 life, the terrestrial life, the bird life, that it
18 supports here in our region.

19 They are our biggest job creators. And we
20 must, above all else, protect the health of our
21 Delaware River and its ecological systems, if we want
22 to protect ourselves, if we want to protect our
23 health, if we want to protect our future, and if we
24 want to protect our jobs, and our economy.

25 Thank you.

1 FACILITATOR CAMERON: Thank you very much,
2 Maya. Jim Applegate, and then Norman Meadow, then Tom
3 Joyce.

4 MR. APPLGATE: Good afternoon, my name is
5 Jim Applegate, I'm retired from the Department of
6 Ecology and Natural Resources at the University of New
7 Brunswick, where I was professor of natural resources.

8 My advance degrees are in zoology from
9 Penn State University. I was a member of the Rutgers
10 faculty for 33 years.

11 Two of my activities, at Rutgers, are
12 relevant to today's meeting, and the issue before you.
13 First, I initiated, and administered a course for all
14 incoming students at Cook College.

15 And that course spanned the last 18 years
16 of my career at Rutgers. And it enrolled approximately
17 600 to 700 students each year.

18 The course was delivered by faculty from
19 throughout the college in discussion sections of no
20 more than 24 students.

21 We had several objectives in that course.
22 One was to expose the students to the kind of real
23 world problems that are addressed by the programs of
24 the Land Grant Institution.

25 Another was to show the students, by

1 example, how one develops informed positions, based on
2 critical reading, analysis of data, reasoned
3 discussion, and thoughtful reflection.

4 The topics we chose changed frequently.
5 Course materials for topics were selected by a
6 steering committee of our faculty instructors.

7 It was rare that a faculty section
8 instructor was an expert in whatever subject was being
9 addressed.

10 Not surprisingly, one of the issues that
11 we included, regularly, was global warming. Through
12 critical analysis of available publications, and data,
13 the collective conclusion, of this diverse group of
14 faculty and students, was that world climate was
15 warming at a rate unprecedented in the geological
16 record, and that the most likely cause was the
17 atmospheric accumulation of gas products of burning
18 fossil fuels.

19 Because Cook College programs addressed
20 practical solutions to problems we would explore the
21 what can we do, after considering what is the problem.

22 In the case of global warming our
23 solutions fell into three categories. First, reduce
24 our demand for energy, more efficient fuel consumption
25 in the transportation section, better construction

1 design, both in new construction, and in retrofitting
2 existing living and working spaces, were our top
3 candidates.

4 We recognized, however, that economics of
5 inexpensive fossil fuels made voluntary action
6 unlikely without government incentives.

7 A second category of what can we do, bring
8 more renewables energy sources on line. Here we like
9 solar energy, wind energy, and bio fuels.

10 At the time we were discussing these ideas
11 we had only limited experience with these techniques
12 and technologies.

13 Experience, over the past decades, tells
14 us that each of these solutions comes with a cost. We
15 cover fragile desert habitats with solar panels, while
16 ignoring warehouse rooftops, and other existing
17 opportunities that have less impact.

18 Wind energy leaves a construction and
19 service footprint, at the expense of wildlife
20 habitats. And operation has serious impacts on the
21 mortality of migratory birds, and foraging bats.

22 Land growing bio fuels have very limited
23 wildlife habitat value. Barry Commoner was right, way
24 back when, there is no such thing as a free lunch.

25 A third option was a re-examination of

1 nuclear power generation. A technology not considered
2 a part of the package while we taught the course.
3 But, evidently, back on the table, as evidenced by the
4 current PSEG exercise.

5 We recognize the value of generating
6 usable energy without increasing greenhouse gases. We
7 worried about safety issues and, even more, about the
8 lack of a long-term safe repository for nuclear waste.

9 We were not experts but we believe our
10 concerns were real.

11 The second dimension, of my Rutgers
12 experience, that relates to this meeting, was my
13 teaching of field ecology. A course in which we
14 traveled the state, learning about natural history,
15 and how people use land.

16 It is a blend of geology, soils, botany,
17 zoology, economics and history, helping the students
18 to learn how existing landscapes are the results of
19 the complexity of all of these interacting elements.

20 During the re-permitting, of the existing
21 nuclear facilities at Salem, PSEG developed a bay-wide
22 concept of mitigating the impacts of the existing
23 cooling apparatus at the facilities.

24 They were creative in identifying a
25 variety of ways that the bay-wide resource value could

1 be improved through investment in projects, throughout
2 the Delaware Bay estuary.

3 I was impressed by the scope of their
4 thinking, and the resources they could bring to the
5 table.

6 I testified in favor of this mitigation at
7 the re-permitting hearing. Since then I have
8 followed, with my students and with great interest,
9 what has become the largest privately financed estuary
10 enhancement project in the nation.

11 Without going into details the project has
12 been a resounding success, at many levels, and
13 increasing the resource value of large acreages
14 throughout the bay.

15 PSEG has a solid track record in
16 delivering on their commitment to bay-wide health.

17 Returning to the purpose of this meeting,
18 should this project move ahead toward construction,
19 there will be on site habitat impacts that will be
20 unavoidable.

21 And I urge that the process to embrace the
22 same bay-wide approach used in the estuarian
23 enhancement program, and to be creative and aggressive
24 in identifying off-site mitigation opportunities.

25 Hold PSEG's feet to the fire. History

1 suggests that they will deliver. Thank you very much.

2 FACILITATOR CAMERON: Thank you, Jim. And
3 we are going to switch things up, again, before you
4 come down, it may be more convenient for some people
5 and, hopefully, not more difficult for others.

6 But we are going to get to Joanna Burger.
7 And then we will go to only Norman Meadow, but Karen
8 Meadow. And then we will hear from Tom Joyce.

9 DR. BURGER: My name is Joanna Burger, I'm
10 a distinguished professor of biology at Rutgers
11 University.

12 And I want to say a little bit about my
13 professional background. I am a professor of biology
14 at Rutgers, where I have taught biology for over 35
15 years, and conducted research in New Jersey and
16 elsewhere.

17 I am an ecologist with a PhD from the
18 University of Minnesota, and a masters from Cornell
19 University. I'm also a member of the Environmental
20 and Occupational Health Science Institute, and am on
21 the faculty of the School of Public Health at Rutgers.

22 I'm a Fellow of the American Ornithologist
23 Union, the International Ornithologist Union, AAAS,
24 and the International Union of Peer and Applied
25 chemistry.

1 My research interests are in coastal and
2 Pine bearance ecosystems, specializing in vertebrate
3 ecology, eco-toxicology, and the mitigation of human
4 activities on ecosystems and the species within them.

5 I have written or read over 20 books and
6 500 research papers in Refri Journals, and on the
7 Editorial Board of several environmental journals,
8 environmental research, environmental monitoring and
9 assessment, environmental indicators, Journal of
10 Toxicology and Environmental Health, and Renewable
11 Energy.

12 For 15 years I have worked with the
13 Department of Energy examining ecological effects at
14 their former nuclear plants in Harford, Savannah
15 River, Oakridge, and many others.

16 I have served on National Academy of
17 Sciences Committees and Boards, the Board of Biology,
18 the Board of Environmental Science and Toxicology;
19 committees for EPA, and for the Nuclear Regulatory
20 Commission.

21 I was awarded the Brewster Medal from the
22 American Ornithologist Union, and the Distinguished
23 Service Award from the Society of Risk Assessment, as
24 well as a Conservation Award from the Conservation
25 Foundation of New Jersey.

1 I have sat on Endangered and Non-Game
2 Species Council for the State of New Jersey, since the
3 early, late 1970s, and have worked extensively with
4 stakeholders, and edited a book on science and
5 stakeholders for Springer.

6 My statement is based on extensive
7 experience with environmental assessment, nuclear
8 facilities, wind power facilities, stakeholder
9 involvement, and extensive knowledge and experience
10 with PSEG's Environmental Restoration Program.

11 Abstract of my position. I have had the
12 opportunity to observe PSEG's environmental policy
13 actions over 20 years, and the restoration and
14 mitigation activities in support of the environment.

15 I know of no company that has such a
16 stellar environmental record, well beyond what has
17 been required of them. Their environmental
18 restoration activities are a model for other states,
19 and other countries.

20 And I have read the Environmental Report,
21 and given what I know about their past performance, in
22 habitat enhancement, I'm confident that PSEG will
23 carry out their plans and create much more habitat
24 than is compromised by the new development.

25 Further, the land that will be used for

1 siting the new facility is not currently natural high
2 quality habitat. But it is already degraded.

3 But, in contrast, I feel confidence that
4 the mitigation habitat will be functioning high
5 quality habitat. I encourage the NRC to approve the
6 Early Site Permit and lend my support to PSEG for its
7 community minded ecosystem conscious approach to
8 restoration and mitigation.

9 My full statement is PSEG has applied for
10 an Early Site Permit to construct a nuclear facility
11 at the Hope Creek, New Jersey Salem Nuclear Plant.

12 The new facility would be placed on its
13 current property. The PSEG Environmental Report
14 addresses footprint issues, and the mitigation that
15 will be performed in support of improving other lands.

16 Much of the land that will be used for
17 site construction, of the new nuclear facility is
18 degraded, phragmites wetlands. And, as such, is not
19 a natural productive habitat.

20 Their mitigation efforts include a
21 mitigation plan that has identified compensatory lands
22 that could offset some of the impacts to wetlands,
23 including candidate areas in portions of the existing
24 PSEG site Mannington Meadows, Mason's Point, and the
25 additional areas of the company's Alloway Creek

1 restoration site.

2 These habitats will be greatly improved by
3 PSEG's mitigation work. And the restored habitat will
4 provide much higher quality than is even possible with
5 the plant, at the plant construction site.

6 The natural tidal flows, in the planned
7 restoration and mitigation habitat, will lead to
8 habitat with far greater wildlife use, and ecosystem
9 integrity.

10 This part of the Delaware Bay ecosystem
11 will be greatly aided by the restoration plan by PSEG.
12 The environmental plan they present is sound, well
13 thought out, and sufficiently developed to ensure that
14 it can be accomplished.

15 The environmental report is extensive,
16 comprehensive, and devotes considerable attention, not
17 only to the environment, physical and ecosystem
18 issues, but to appropriate public involvement and to
19 monitoring.

20 As an ecologist I have been impressed with
21 their due diligence in addressing all the outstanding
22 environmental issues, and goes well beyond what is
23 necessary in terms of mitigation and restoration of
24 additional habitat.

25 The State of New Jersey will be gaining

1 considerable high quality habitat by these actions, in
2 exchange for degraded, low quality, phragmites marsh,
3 that is on the current site.

4 The plans, proposed by PSEG, can be viewed
5 in light of their past mitigation, and restoration
6 activities. They have one of the largest and most
7 successful mitigation projects in the country, where
8 they control phragmites to produce high quality salt
9 marsh with its attendant mud flats and inter-tidal
10 habitat that is used extensively by thousands of shore
11 birds, and other species.

12 Thus their estuary enhancement program is
13 one of the most successful in the country, has
14 received a variety of state and national awards.

15 And unlike many such programs, it is
16 sustainable. Thus it is my professional opinion that
17 they are capable of and will deliver on their
18 environmental mitigation and restoration plans.

19 The company's integrity, and environmental
20 vision, to ensure that there is little environmental
21 impact, and that the restoration and mitigation plans
22 will result in a far more high quality habitat than is
23 presently on that site.

24 Now, do I need to give this to him?

25 FACILITATOR CAMERON: Yes, please. Thank

1 you very much.

2 DR. BURGER: Thank you.

3 FACILITATOR CAMERON: And now we go to
4 Norman Meadow, and then to Karen, and then to Tom
5 Joyce.

6 DR. MEADOW: Thank you, Chip. My name is
7 Dr. Norman Meadow, and I'm a retired, I retired as a
8 principal research scientist from the Biology
9 Department at Johns Hopkins.

10 I'm also first vice president of the
11 Maryland Conservation Council, and on behalf of the
12 group I would like to thank you for the opportunity to
13 speak, here, today.

14 The Council is one of the oldest
15 conservation and environmental organizations in the
16 State of Maryland.

17 And we conclude that the review team has
18 done an excellent job in producing the DEIS, but we
19 think that its conclusions to approve the Early Site
20 Permit, for the reactor, can and should be
21 strengthened regarding concern about climate change.

22 The issue of climate change and
23 anthropogenic carbon dioxide is considered important
24 enough that the review team devoted two pages to its
25 discussion, in Section 9.2.5.

1 In addition to mentioning CO2 emissions
2 throughout the DEIS. The MCC believes that climate
3 change is among the most serious threats to both
4 modern civilization, as well as the natural world.
5 And it is that world, which is the MCC's mission to
6 protect.

7 Table 9.5 compares the smaller CO2
8 emissions, from the proposed reactor, with those
9 expected from a selected combination of alternatives,
10 which includes renewables.

11 They differ by about three orders of
12 magnitude. Meaning that nuclear power is
13 significantly more effective in stabilizing climate,
14 than any practicable combination of alternatives that
15 would be available in the foreseeable future.

16 Climate and energy policy have been
17 discussed, in great detail, by the U.S. National
18 Academy of Sciences, and National Academy of
19 Engineering, in a series of about 100 book-length
20 reports, published over the past 30 years.

21 The Economy is one of the most respected
22 scientific organizations in the world, and has been
23 the official advisor to the U.S. government on
24 technical matters, since its establishment, by the
25 Lincoln Administration, during the civil War.

1 It is puzzling that neither the news
2 media, nor the nuclear industry have given the
3 conclusions reached, by this prestigious organization,
4 the attention that they merit.

5 Let me summarize them. The scientific
6 finding that bears most critically on climate policy,
7 is the recent understanding that emission of carbon
8 dioxide, to the atmosphere is, essentially, an
9 irreversible process, when compared to relevant human
10 time scales of decades or centuries.

11 The Economies estimate that a slug of
12 carbon dioxide, emitted today, will be reduced by
13 half, or only half, in a thousand years.

14 And that one fourth will still be present
15 in 10,000 years. And that 100,000 years would be
16 required to remove it all.

17 So three critical questions, conclusions,
18 can be drawn from this understanding. The first is
19 that we must reach zero carbon dioxide emissions as
20 soon as possible.

21 Because what is emitted this year is going
22 to be with us for a good millenium, or more. We don't
23 have time to wait for ancillary technologies, like
24 energy storage and a number of other things to be
25 developed. Nuclear power can do that right now.

1 Second, at the current state of technology
2 wind and solar installations require backup by a fast
3 responding power source. And the only available,
4 today, is carbon dioxide emitting natural gas
5 turbines. And that conflicts with the first
6 conclusion, that we have to end CO2 emissions as
7 quickly as possible.

8 The third conclusion, that the National
9 Academies of Science reached is that nuclear power
10 must be used as an essential component for producing
11 carbon free primary energy.

12 Nuclear power can also be used for
13 industrial process heat, as well as heat for
14 buildings, whereas wind cannot. And solar
15 installations, in deserts, cannot supply heat to
16 industrial or population centers.

17 We respectfully request that the major
18 findings of the National Academies be mentioned in the
19 final DEIS, or the final EIS. Thank you.

20 FACILITATOR CAMERON: Thank you very much
21 Norman. And now we will hear from Karen Meadow, and
22 then from Tom Joyce.

23 MS. MEADOW: Thank you for the opportunity
24 to speak today. My name is Karen Meadow. As you can
25 tell I'm attached to Norman Meadow, and I also

1 represent the Maryland Conservation Council.

2 The following quotes are from a number of
3 books that Norman mentioned, on climate change,
4 published by the National Academy of Sciences.
5 Written citations have already been handed in to the
6 NRC.

7 Number one, emissions reduction, larger
8 than 80 percent, are required to approximately
9 stabilize carbon dioxide concentration for a century,
10 or so, at any chosen target level.

11 Two, even greater reductions, in
12 emissions, would be required to maintain stabilized
13 concentrations in the longer term.

14 Three, the warming induced by added carbon
15 dioxide is expected to be nearly irreversible for, at
16 least, a thousand years.

17 Four, longer term stabilization requires
18 nearly one hundred percent reduction.

19 Five, even if CO2 emissions become close
20 to zero, the decrease in atmospheric concentration
21 may, however, occur very slowly over centuries.

22 The following quote is from the National
23 Academy of Sciences, referred to the need for nuclear
24 power to combat global warming.

25 One, U.S. nuclear power plants were

1 responsible for, approximately, 70 percent of the
2 greenhouse gas free electricity production in the
3 United States.

4 The existing plants are likely to continue
5 to contribute significantly. However, after 2035 if
6 significant new construction has taken place, during
7 the preceding 15 years, the greenhouse gas emissions
8 reduction could be substantial.

9 Two. We thus conclude that is an urgent
10 need for U.S. action to reduce greenhouse gas
11 emissions. In response to this need for action we
12 recommend policies to, among other things, establish
13 new generation nuclear technologies.

14 Three, nuclear power is one of the key
15 options for meeting large scale electricity demand
16 without producing greenhouse gases.

17 Four, nuclear power is an established
18 technology that could meet a significant portion of
19 the world's energy needs. France obtains, roughly, 79
20 percent of its electricity from nuclear sources.

21 About 20 percent of U.S. electricity comes
22 from nuclear reactors. By far the largest source of
23 greenhouse gas-free energy. The reliability of U.S.
24 reactors has increased dramatically over the past
25 several decades.

1 Let me conclude my remarks by pointing out
2 that eminent Scientist James Hanson recently wrote,
3 that the world's existing nuclear reactors have
4 prevented 1.8 million premature deaths from
5 respiratory diseases.

6 Consequently the Maryland Conservation
7 Council concludes that significantly more respiratory
8 diseases could have been prevented, and considerably
9 less CO2 would be in the atmosphere, today, if
10 construction of new nuclear reactors had not been
11 virtually stopped after 1980.

12 In addition, the increasing CO2
13 concentrations, in the atmosphere, are causing
14 elevated ocean acidification, which is drastically
15 affecting the aquatic food chain and will result in
16 world-wide food shortages.

17 Deleterious effects of acidification have
18 already been documented in shellfish aquaculture in
19 the Pacific Northwest.

20 Therefore we feel building more nuclear
21 reactors, as quickly as possible, is essential to the
22 long-term viability of human society, and the
23 biological world.

24 Thank you very much.

25 FACILITATOR CAMERON: Thank you, Karen.

1 And we are going to hear from Tom Joyce now. And then
2 we go to Michael Weinstein, David Velinsky.

3 This is Tom Joyce.

4 MR. JOYCE: Thanks, Chip. Good afternoon,
5 as Chip said, I'm Tom Joyce, and I'm the President and
6 Chief Nuclear Officer for PSEG Nuclear, down here in
7 south Jersey.

8 I'm a member of the leadership team that
9 operates the plants from day to day.

10 On behalf of PSEG I really do look forward
11 to all of the comments today, so that we get a better
12 understanding of the community's outlook on what it is
13 that we are proposing to do.

14 At PSEG we understand our obligation to
15 the local community, the environment, and our friends,
16 families, coworkers, to provide safe, reliable,
17 economic and green energy.

18 We operate our plants with a culture of
19 safety and transparency. We encourage all of our
20 employees to raise issues, and to be open, on how we
21 can do things better.

22 It seems like when we really look at it,
23 no matter what it is that we do, there are always
24 lessons learned so that tomorrow we can do it just a
25 little bit better.

1 There are no surprises, not in our
2 operations and, certainly, not with our stakeholders.
3 There is no nuclear, no new nuclear, without good old
4 nuclear.

5 Every time that there is an upset
6 condition, in the nuclear industry, it is really going
7 to impact the ability to build any new power plants.

8 And we do recognize our current operations
9 having an impact on the community. We have, now, over
10 1,800 local employees, including about 40 percent of
11 them from Salem County, itself.

12 The purchase of goods and services,
13 totaling about 81 million dollars a year, from the
14 South Jersey businesses, and more than two million
15 dollars a year in property taxes.

16 We take great pride in being a good
17 neighbor. We are proactive, and engage the community
18 when there are issues with our operations, to make
19 sure that they have an understanding of the challenges
20 that we face, and how we are answering, or how we are
21 dealing with those when they occur. Again, no
22 surprises.

23 And that means no surprises in our plans
24 to explore the opportunity to build another nuclear
25 power plant down here at Artificial Island.

1 And when I stop and I think back on the --
2 originally this site was licensed for four reactors.
3 And I think, since then, the world of science has even
4 progressed from there, and I feel very good about the
5 Environmental Impact Statement that has been generated
6 by the NRC with help from the Army Corps.

7 I'm not going to go into the impacts of
8 what would a new nuclear power plant do. I think Mike
9 did that very well in his opening remarks.

10 But that these impacts, as well as many
11 others, will affect our community. And we have met
12 with the County Freeholders, in all of the local
13 municipalities, and we intend to keep up that
14 relationship as we go down this path.

15 We know that Sean has some concerns about
16 traffic, and we are going to address that, we are
17 going to talk to him, and make sure that he has a very
18 clear understanding of what the impact would be on his
19 community.

20 So we recognize that this Early Site
21 Permit would give us the possibility to go ahead and
22 build another nuclear power plant.

23 The importance of it to us, though, is
24 that the window would remain open for 20 years. And
25 even though today, the economics of it are fairly

1 tough, we really don't know what the next ten years,
2 or the next 20 years will bring, in the impacts on
3 carbon.

4 So with that, that concludes my remarks.
5 Thank you very much.

6 FACILITATOR CAMERON: Okay, thank you Tom.
7 And Michael Weinstein? Here is Michael.

8 MR. WEINSTEIN: The first 30 seconds won't
9 count against me because both email, and the telephone
10 conversation with NRC said I had 8 to 10 minutes.

11 So I have to adlib out about three or four
12 minutes.

13 Thank you very much for this opportunity
14 to speak. I will say first that I notice, as part of
15 NRC's logo, the phrase was included, protecting people
16 and the environment.

17 I assume that is an integral part of your
18 mission. And I want to just comment that I happen to
19 be in the very same business, and would like to cast
20 my comments in this regard.

21 My name is Mike Weinstein, and I'm
22 currently semi-retired, but working half-time at the
23 Center for Natural Resource Development and
24 Protection, at NJIT.

25 I'm the former President and CEO of the

1 New Jersey Marine Sciences Consortium, where I also
2 served as New Jersey's Seagrass College program
3 director, one of 31 such programs nationwide.

4 At the time I was also a visiting scholar
5 at Rutgers University, where I undertook my research
6 program, and supported graduate students.

7 In my capacity as Seagrass College program
8 director, and as a practicing coastal ecologist and
9 wetland scientist, I partnered with PSEG to develop a
10 five year initiative called the Marsh Ecology Research
11 Program.

12 Funded by a one to one matching
13 contribution of federal and company funds, totaling
14 more than 1.5 million for the granting period.

15 Competitive grants were awarded in eleven
16 states, and contributed to peer reviewed literature
17 based on marsh ecology and restoration science.

18 During this same period PSEG was, also, a
19 major contributor to the publication costs of Concepts
20 and Controversies in Tidal Marsh Ecology.

21 This allowed the book to come out in
22 affordable price for faculty and, especially, for
23 graduate students. In its time it became the go-to
24 source for current research in the field of tidal
25 marsh ecology.

1 The company also contributed to a peer-
2 reviewed special issue of the Journal Estuaries,
3 entitled Phragmites Australis a Sheep in Wolf's
4 Clothing, which reviewed the state of the science, and
5 impacts of this aggressive biopollutant.

6 I introduced all of the foregoing because
7 an absolutely critical element, for moving forward
8 with the contributed funds was that they, in no way,
9 influenced the public use of the collected data.

10 These data were owned by the principal
11 investigators, who published their results as they saw
12 fit. I do not believe that many corporations would
13 accede to this type of provision, as much was at stake
14 for the company.

15 Many dozens of journal papers, all peer-
16 reviewed, book chapters, and other documents, were
17 published during the MERP years. And with its
18 companion programs, probably an excess of 200 peer-
19 reviewed papers, etcetera, have been published.

20 Among the outcomes of this particular
21 initiative, Marsh Ecology Research Program, and its
22 multi-faceted habitat initiative, the MERP was awarded
23 Coastal America Spirit Award.

24 And in his congratulatory letter, CEQ
25 director James L. Connaughton commented, the

1 expenditure of the Marsh Ecology Research Program into
2 the NJMSC habitat initiative, has developed a
3 comprehensive program that includes research projects,
4 that provide important information to decisionmakers,
5 and increases the stewardship ethic, and the literacy
6 of teachers, students, and parents.

7 The nearly 32 square miles of PSEG's
8 Estuary Enhancement Program, and we all heard that
9 this is probably the largest privately-funded program
10 in the world, consists mainly of newly enhanced
11 restored and/or preserved wetlands, all of which
12 contribute, materially, to New Jersey's three billion
13 dollar commercial and recreational fisheries.

14 But the restoration effort has also taken
15 center stage in efforts to build a climate resilient
16 nation, by protecting people, property, and the
17 environment, against the ravages of severe storms.

18 Some of my ad libbing here, whether it is
19 the federal actions for a climate resilient nation,
20 President Obama's Executive Order 13547, or the
21 National Ocean Council's Strategic Plan, Strategic
22 Action Plan for Resiliency and Adaptation, all of
23 these documents, and federal, state, and local
24 efforts, recognize that climate change exacerbates
25 existing stresses, and negatively impacts communities

1 that rely on natural resources for their livelihood
2 and economic prosperity.

3 So long after the Artificial Island power
4 plants, and their infrastructure are gone, including
5 those horrible looking cooling towers, EEP wetlands
6 will continue to serve these critical ecological and
7 societal functions.

8 And not only produce fish and shellfish of
9 the right kind, but in copious numbers. It will also
10 help protect people and property in the region, again,
11 against the advent of more severe storm events.

12 So beginning to close, why have I said all
13 of this? The proposed project will result in the
14 unavoidable loss of about 100 acres of phragmites
15 dominated wetlands, that will require mitigation in
16 some form.

17 Having worked with PSEG personnel since
18 1984, in various aspects of the EEP, and witnessed
19 first-hand, a willingness and commitment to do the
20 right thing, and to be diligent and rigorous in their
21 efforts to avoid and minimize impacts of the project,
22 on natural resources.

23 More than 50 specialists in ecology,
24 design, and construction of coastal wetlands have
25 participated in implementing and/or evaluating the

1 EEP, still on an ongoing basis, during the last two
2 decades.

3 I had the quote about ecological,
4 ecosocietal restoration, and I just will say that this
5 is one of the best examples I can cite of ecosocietal
6 restoration. If you want to know what that is ask me
7 afterwards.

8 In closing I'm absolutely certain that a
9 satisfactory effort to replace these lost wetlands,
10 will be undertaken, by the company, to the vast
11 satisfaction of the majority of public resource, and
12 regulatory agency personnel, both federal and state,
13 and a broad array of decisionmakers.

14 They have done this admirably before,
15 involving a multi-disciplinary group of the nation's
16 best scientists, and quality engineers to design and
17 implement their marsh restoration program.

18 I see absolutely no reason why they will
19 not do the same again, inviting in the top technical
20 talent to achieve their mitigation objectives. Thank
21 you.

22 FACILITATOR CAMERON: Thank you. Thank
23 you very much. And another elected official is with
24 us, and it is Julie Acton. And then we will go to
25 David Velinsky. Go ahead, Julie.

1 MS. ACTON: Good afternoon. First of all
2 I just want to thank you for having this public forum.

3 My name is Julie Acton, I'm the Sound
4 County Freeholder Director and, also, a Pennsville
5 resident in Salem County.

6 And I just want to thank PSEG for their
7 consideration to locate a fourth reactor in Salem
8 County.

9 They have always been a good neighbor, a
10 good partner. They are involved in the community.
11 They are always open and transparent. I think their
12 motto is safety, safety, safety, train, train, train,
13 and educate, educate, educate.

14 Which, in essence, helps our community out
15 better. Because it educates our residents. So we
16 thank them for that.

17 They are totally involved in our
18 community, in a lot of different aspects, through non-
19 profits, through our community college, just every
20 aspect of our community. So we thank them for that,
21 too.

22 They employ a lot of our residents. This
23 just doesn't happen, it happens through leadership.
24 And from the top on down we thank them for their
25 leadership and guidance.

1 This additional reactor I know will impact
2 our community in a positive way through additional tax
3 revenue, through income tax, additional income tax
4 revenue, through additional real estate revenue, even
5 sales tax.

6 It will impact our community directly, and
7 indirectly. If you ride down Sound County roads you
8 will see a lot of empty businesses. There will no
9 longer be empty businesses.

10 So not only do we thank them for their
11 consideration, we are encouraging them for this
12 consideration.

13 I just want to say that I'm in total
14 support of this action. Thank you.

15 FACILITATOR CAMERON: Thank you, thank you
16 very much. And, David? This is David Velinsky.

17 MR. VELINSKY: Thank you, Chip. Good
18 afternoon. I'm David Velinsky, Vice President for
19 Science at the Academy of National Sciences in
20 Philadelphia, Director of the Patrick Center for
21 environmental research at the Academy, and Department
22 Chair for the Department of Biodiversity, Earth and
23 Environmental Sciences at Drexell University.

24 The Academy of Natural Sciences is the
25 oldest, continuously operating natural history

1 institution in America, and has been engaged for over
2 60 years in research on the ecological sciences,
3 particularly on the understanding interactions between
4 humans and the natural environment.

5 The Patrick Center is an inter-
6 disciplinary team of researchers that specializes in
7 assessing human environmental impacts, especially as
8 related to watersheds, wetlands, rivers, and
9 estuaries.

10 The Patrick Center performs both basic and
11 applied research, on ecological processes, as well as
12 providing evaluation and monitoring of baseline
13 conditions, and subsequent impacts related to
14 anthropogenic alterations of the ecosystems.

15 In that role we have done extensive
16 research on the physical and biological
17 characteristics of the Delaware Estuary, including
18 some components of the PSEG Estuary Enhancement
19 Program over the years.

20 For over 20 years the Academy has acted in
21 an advisory role to monitor and evaluate the impact of
22 the various projects, of PSEG, on the Delaware
23 Estuary.

24 In that time we have had the opportunity
25 to observe PSEG make substantive steps in reducing

1 their environmental impact, and to operate within the
2 constraints of the local ecosystem.

3 They are a very responsible partner in the
4 study and use of the Delaware Estuary. In looking at
5 the proposed new construction at the PSEG site I will
6 be speaking, primarily, to the specific projected
7 ecological impacts on local aquatic systems.

8 The natural systems, of the Delaware River
9 and estuary, are critical environments with major
10 significance, for both regional and global
11 biodiversity, for regional water quality supply, and
12 water quality, and for supporting important economic
13 activities.

14 Construction on a scale proposed by PSEG,
15 on the Delaware coast requires careful consideration
16 of environmental factors.

17 Before addressing this new construction,
18 I would like to point out that PSEG's past efforts to
19 mitigate the effects of the operations on the aquatic
20 environment in the Salem vicinity.

21 And particularly faced with concerns of
22 negative impacts on fisheries, by cooling water intake
23 operations, PSEG responded with the largest private
24 wetlands restoration project in the nation.

25 The Estuary Enhancement Program began in

1 1994 and since that time has been a large scale effort
2 to restore and preserve portions of the Delaware
3 Estuary in both New Jersey and Delaware.

4 PSEG has restored, enhanced and/or
5 preserved more than 20,000 acres of salt marsh, and
6 adjacent wetlands to vital healthy habitat for fish
7 and wildlife.

8 The Academy commends PSEG on its
9 demonstrated initiative, and long-term commitment in
10 restoring the critical wetlands to the Delaware
11 Estuary.

12 The Delaware Estuary Enhancement Program
13 has had numerous positive impacts on the ecology and
14 biodiversity of the region, and has made important
15 contributions to the recreational and educational
16 opportunities available to local communities.

17 The scale and scope of this effort has
18 supported large scale scientific research, as outlined
19 from Mike, and has improved our understanding of the
20 process of environmental restoration.

21 The proposed new construction will
22 permanently impact some wetlands. While protection of
23 wetlands is a high priority, as demonstrated by
24 Section 404 of the Clean Water Act, the majority of
25 these wetland acreages impacted by the new

1 construction, has a degraded hydro period, and now
2 hosts a monoculture of phragmites, and invasive reed
3 grass.

4 Phragmites is often found in disturbed
5 marsh areas, where plant communities, hydrology and
6 topography have been altered. Phragmites replaces
7 native plants, and has a negative impact on the
8 biodiversity overall.

9 Targeting these degraded wetlands in close
10 proximity to the existing facility, will reduce the
11 need for new infrastructure, minimizing the
12 environmental disturbance that would result if
13 development occurred in Green field sites.

14 Moreover, the amount of wetlands impacted
15 represents a small fraction of the total wetland,
16 mainly with higher quality functions, present in the
17 vicinity of the construction area.

18 PSEG is making acceptable efforts to
19 restrict impacting these wetlands, including a site
20 plan to minimize encroachment, the use of sediment
21 pits to stage some of the construction operations, the
22 use of a raised causeway, rather than using fill
23 material to carry the access road to the new site.

24 While permanent disturbance, to wetlands,
25 occurs PSEG has outlined mitigation plan that would

1 create new wetland environments in adequate amounts to
2 offset the loss.

3 We anticipate that the resources, and
4 expertise developed in the EEP will provide a strong
5 foundation for the mitigation steps taken by PSEG, in
6 the new site construction.

7 Both in selecting the mitigation sites,
8 and managing and restoring the enhanced wetland sites.

9 In addition to the steps being taken to
10 protect the wetlands impacted by construction, the
11 aquatic impacts of the proposed facility will be
12 limited by the use of a closed cycle cooling system,
13 compared to the once through system, these cooling
14 towers will divert much less water for cooling, much
15 less for cooling.

16 Projected maximum diversion, for the new
17 facility, is less than four percent, depending on the
18 type of facility of the current use, by Salem, and
19 less than .05 percent of the total volume of the
20 Delaware River flow.

21 As a result the impingement of fish
22 populations will be a small fraction of the current
23 level of the Salem Station.

24 Finally, this does not -- while this does
25 not directly relate to the environmental impacts of

1 the new plant, I would add these thoughts on the
2 prospects of global climate change.

3 As an environmental scientist, and
4 geochemist, I believe it is no exaggeration to say
5 that climate change represents a singular
6 environmental threat of the coming century.

7 Even for the development of the new plant,
8 the reality still is factor that is must be and is
9 being taken into account for in the new facility.

10 While I'm not an expert in energy
11 generation, there is no question that the future
12 welfare of human society depends on reducing energy
13 use, and developing zero carbon sources of energy.

14 Many experts have indicated that nuclear
15 power represents a viable alternative, in the short
16 term, and must be part of the mix of conservation, and
17 new energy sources that are used to make transition to
18 a zero carbon future.

19 Let me conclude that I have had the
20 opportunity to observe PSEG's operations for a number
21 of years. And I'm impressed by their willingness to
22 respond to environmental constraints in their
23 planning.

24 They have embraced ecological science as
25 a planning tool for engineering, and have been

1 proactive in seeking the guidance of experts, and to
2 reduce their environmental impacts.

3 The EEP represents a long-term commitment
4 to the region, and its natural resources. And I would
5 expect the commitment to continue with the proposed
6 new construction.

7 Thank you very much for your time.

8 FACILITATOR CAMERON: Thank you. Alice
9 Eastman and we are going to go to Lynn Miller.

10 MS. EASTMAN: Good afternoon. My name is
11 Alice Eastman, but everybody calls me Ajax. So -- and
12 I'm from Baltimore, Maryland.

13 My background is in the area of
14 conservation and protection of ecological areas of the
15 natural world. Therefore I mainly address some of the
16 ecological aspects of the report.

17 I was, formerly, a staunch opponent of
18 nuclear power, especially following the Three Mile
19 Island episode. But that position changed after I
20 became an intervenor in the proposed wind
21 installations along the ridges of the Appalachian
22 Mountains in Western Maryland.

23 I learned the truth about the many down
24 sides of industrial wind. And, at the same time,
25 learned that my opposition to nuclear energy was based

1 on my ignorance of it.

2 Dr. Norman Meadow, and William Biggley
3 both helped to dispel that ignorance. And I have,
4 since, become a strong supporter of nuclear energy, as
5 the most environmentally sensitive solution to our
6 energy needs.

7 Industrial wind and solar energy are being
8 touted as the best way to reduce greenhouse gases, by
9 our political leaders, most of the environmental
10 organizations, and the general public.

11 I don't believe that those supporters
12 fully understand why their position is false. Aside
13 from the fact that the capacity factor of wind
14 generated electricity averages around 30 percent for
15 land based turbines, and 40 percent for offshore
16 turbines, and that the expected life of the turbines
17 is only 20 years, the supporters are unaware of the
18 many environment downsides of industrial wind.

19 The NRC staff has done a good job of
20 comparing the enormous amount of land required for
21 wind, and solar, installations compared to nuclear.

22 And it is staggering, especially when the
23 reliability, and the amount of energy produced is
24 factored in.

25 The DEIS uses a scientific paper that, in

1 my estimation, downplays the avian and bat mortality
2 caused by turbines, by comparing the rates to millions
3 killed by other human causes.

4 It fails to mention that the same NRC
5 paper states that there are other indirect impacts on
6 birds and bats. Indeed, a great deal of the bird
7 mortality occurs in urban areas, where thousands of
8 communal birds, such as house sparrows, that are not
9 even native.

10 Feral cats and tall buildings with lots of
11 glass, etcetera. But why would we add another threat?
12 Especially if that threat is not justified by an
13 unreliable source of energy?

14 I agree that measuring the number of birds
15 killed in the urban areas is far greater than the
16 number of birds and bats killed by wind turbines.

17 However, the number of turbines, since
18 2008, when the study was conducted, has grown
19 substantially, and is projected to grow in the future.

20 Therefore it follows that the number of
21 bird and bat fatalities has grown since then and will
22 continue to grow, a well.

23 I also question how accurate the bird and
24 bat fatalities were, when each turbine site is not
25 monitored by humans on a daily basis. Scavenging

1 predators could change the count before humans can be
2 on site to make an accurate count.

3 Even more disturbing, according to the
4 renowned ornithologist Chandler Robbins, who has spent
5 more than 50 years studying migrating birds in western
6 Maryland, those Appalachian ridges, being targeted for
7 industrial wind installations, are the major flyway
8 for migrating neo-tropical birds.

9 They congregate from their summer breeding
10 grounds in Canada, and North America, along those
11 ridges as they head to their wintering grounds in
12 Central and South America.

13 These birds are already declining due to
14 loss of both winter habitat and summer breeding
15 habitats. In fact, the forest and ridges of western
16 Maryland are mostly unfragmented, and provide habitat
17 necessary for their successful breeding.

18 Fragmented forests provide edges that are
19 favored by nest predators, such as the brown headed
20 cow birds. Industrial wind sites necessitate the
21 fragmentation of long small songbirds' nesting
22 territories, adding to the diminishing of their
23 species.

24 By the way, I object to the Appalachian of
25 industrial wind plants as wind farms. When they are

1 referred to as wind farms the misconception is of
2 benign bucolic scenes of farms of yesteryear, with a
3 small many bladed wind turbine mill standing nearby.

4 The DEIS should refer to them as
5 industrial wind plants. PB solar power located on
6 rooftops is a good source of renewable energy because
7 the energy produced does not need to be transported
8 over transmission lines but can, easily, directly
9 applied below, and requires no additional land.

10 Industrial sized solar arrays, on the
11 other hand, require both a great deal of land, and the
12 need for energy produced to be transported over
13 greater distances.

14
15 One of the enormous arrays of mirrors, in
16 the desert's southwest, has proven to be a huge killer
17 of birds and flying insects. They are attracted to
18 the area, then drawn to their fiery death.

19 The panels and mirrors are, also, in
20 constant need to be washed, to be effective, which
21 poses a problem in the arid desert.

22 These and many other problems of
23 unreliability, non-firm production electricity, the
24 enormous amount of land and sea required, greater
25 costs, shorter life spans, in comparison with nuclear

1 energy are why I'm committed to favoring nuclear
2 energy.

3 I, therefore, hardly endorse the
4 conclusions in support of the NRC's DEIS, for the
5 proposed PSEG new facilities. Thank you very much.

6 I'm sorry that I had to go into a great
7 deal of the other forms of energy. But I think it
8 needs to be said in the report. Thank you.

9 FACILITATOR CAMERON: All right, thank you
10 Ajax. And Lynn, Lynn Miller. And then we are going
11 to go to Dan Moscovici, Mike McHugh, and Rob Molzahn.
12 This is Lynn Miller.

13 MR. MILLER: Good afternoon. My name is
14 Lynn Miller, 41 year resident of Salem County. I'm a
15 former employee of PSEG and worked, most of those
16 years, at the Salem Hope Creek facilities.

17 I held various positions during that time,
18 including plant manager of the Salem Nuclear Power
19 Plant.

20 A few years ago my wife and I were touring
21 the country of France. In the course of that tour we
22 passed by a French nuclear power plant. The tour
23 guide pointed out, with pride, the fact that 80
24 percent of their electricity is produced from nuclear
25 power.

1 He went on to say that France has been
2 well served, from their commitment to using nuclear
3 energy. His comment caused me to reflect upon the
4 question, is our country being well served by using
5 nuclear energy?

6 I have read the environmental documents
7 prepared for the issuance of an Early Site Permit, and
8 I believe they are thorough and well prepared.

9 I would like to leave you with a few
10 collective thoughts that have accumulated, since I
11 retired from being a nuclear worker, and now an
12 outsider, looking in, at the nuclear industry.

13 Since the use of nuclear power began
14 millions, and millions of tons of carbon dioxide and
15 other air pollutants have not entered the atmosphere.

16 Second, the people of New Jersey, and the
17 region, have benefitted from the cost competitive
18 electricity generated from the Salem and Hope Creek
19 plants.

20 Third, over the years a healthy
21 relationship between the regulators and the plant
22 operator, has strengthened the safety and operation of
23 the facilities.

24 And fourth, the development of a safety
25 culture, over the years, that has been anchored by

1 results oriented and effective corrective action
2 program.

3 I believe nuclear power has, and is, a
4 necessary part to play in our nation's energy future.
5 New Jersey and our nation, like France, is being well
6 served by nuclear power.

7 The issuance of PSEG's Early Site Permit
8 is an important step to that end. Thank you.

9 FACILITATOR CAMERON: Thank you, Lynn. And
10 Mr. Moscovici. And then Michael McHugh, and then Rob
11 Molzahn.

12 MR. MOSCOVICI: Good afternoon. My name
13 is Dan Moscovici, I'm an Associate Professor of
14 Environmental Studies at Richard Stockton College.

15 As a professor of environmental studies I
16 teach a variety of courses related to energy planning.
17 We constantly discuss the disconnect that people have
18 from flicking the lights on, and how we expect them to
19 turn on every time.

20 What we are talking about, then, is
21 baseload energy, and we need it. The battery
22 technology is not there, yet, for widespread
23 renewables to cover this need, even though I encourage
24 us to continue that research and growth.

25 What we are left, then, with is coal,

1 natural gas, hydro, and nuclear, to cover the scale
2 and timing of our energy demand.

3 We have been moving away from coal due to
4 health effects, and devastating impacts, from mountain
5 top removal. Natural gas has become our bridge.

6 However, living in the lower Delaware
7 River watershed I'm really concerned for what will
8 happen in the future with fracking.

9 We need water to survive, and we may see
10 its contamination. I also don't see a renaissance in
11 large scale hydro in this area.

12 We are, then, left with the nuclear
13 industry. While there is the issue of waste which, I
14 hope, the Government and the NRC can begin to
15 reprocess, and recycle back to fuel, I have come to
16 tour plants, and have had hours of discussions with
17 employees and neighbors.

18 What I found is a commitment to safety,
19 quality, and environmental stewardship. Unlike the
20 coal and gas industries, these companies are
21 transparent in their practices.

22 And while they still ultimately are
23 accountable to their shareholders, the scrutiny that
24 comes with nuclear has created educational
25 partnerships, in local communities, environmental

1 stewardship like PSEG's Estuary Enhancement Program,
2 that you have heard mentioned numerous times today.

3 Openness with regard to public relation,
4 and lots of baseload energy we can count on for
5 decades.

6 While I personally think a system of
7 localized smaller scale generation and distribution
8 would be better in the long term, that is not the
9 system we are living in today, given our network and
10 PJM.

11 Therefore we need a solution as many
12 plants begin to close. You have already approved new
13 nuclear sites on Green field locations in this
14 country.

15 And while there may be some NIMBY talk
16 today, Salem is designed to be safe from hurricanes,
17 tornadoes, earthquakes, tidal surges, and they
18 constantly train and test to avoid human error.

19 Salem has reactors, it holds waste, it is
20 a nuclear brown field site. Therefore I think it is
21 a good place to continue the nuclear industry. Thank
22 you.

23 FACILITATOR CAMERON: Thank you, very
24 much, Dan. Mike?

25 MR. McHUGH: Good afternoon, and thank you

1 for the opportunity to present comments on this DEIS
2 for PSEG's Early Site Permit.

3 My name is Martin McHugh, actually.

4 FACILITATOR CAMERON: Martin, I'm sorry.

5 MR. McHUGH: That is okay, no problem.
6 I'm here, today, as an interested New Jersey resident.
7 And as president of McHugh Environmental Associates an
8 environmental consulting firm focusing on solutions
9 for conservation and commerce.

10 We are involved with a range of projects
11 for land preservation, restoration, mitigation,
12 climate resiliency, and sustainability.

13 And, as for my background, prior to
14 consulting I was in public service for 25 years, with
15 New Jersey's Department of Environmental Protection,
16 and with the Division of Law, as a deputy attorney
17 general in the environmental section.

18 I have experience in nearly every
19 environmental enforcement program, and regulatory
20 program, as well as wildlife conservation and
21 fisheries programs.

22 After a series of major oil spills, in the
23 early 1990s, I started the state's Natural Resource
24 Damage Assessment and Restoration Program.

25 And from 2000 to 2006 I worked with the

1 New Jersey Division of Fish and Wildlife serving as
2 director for three of those years.

3 I was the Board President of the Conserve
4 Wildlife Foundation of New Jersey, for a number of
5 years, and I also taught, as an adjunct, at Rutgers
6 University. I presented courses in environmental law
7 and natural resource policy at Cook College, which I
8 think is now called Sebs.

9 In my 30 years of environmental and
10 conservation work in the state I have had direct
11 experience working with PSEG. And I have supervised
12 and served alongside environmental professionals and
13 biologists that were working with PSEG.

14 I have also closely followed many of their
15 environmental programs, such as the Estuary
16 Enhancement Program. And, as we all know, all public
17 utilities, whether they provide water, sewage
18 treatment, or power, are an industry that has an
19 impacts on our environment.

20 Some are unavoidable, many are carefully
21 planned and mitigated. And, unfortunately, some are
22 the results of accidents or violations.

23 In all of my time, working in New Jersey,
24 it has been my experience that PSEG, the largest state
25 utility, with its commitment to the environment, has

1 set a very high bar for utilities, both in and out of
2 the state, on how to reduce and prevent environmental
3 impacts, on how to responsibly address environmental
4 conservation issues that arise as part of their
5 operations and how to be an effective environmental
6 steward.

7 PSEG's commitment to conservation programs
8 has made it an industry leader for our environment, in
9 our state.

10 And I can list a number of projects that
11 illustrate PSEG's commitment. Of course the Estuary
12 Enhancement Program which is restoring upwards of
13 20,000 acres of coastal marsh, is the largest.

14 But, in my own direct experience, I saw
15 the utilities, and PSEG's staff commitment to
16 environment on many occasions, in much smaller
17 projects.

18 Like the cleanup of historic operations,
19 the protection of osprey nests on PSEG facilities, the
20 restoration of important habitat on its power line
21 right of ways.

22 In many of these matters I saw the staff's
23 commitment to not only doing the right thing, but to
24 go above and beyond what was required.

25 And New Jersey's environment has

1 benefitted, and will continue to benefit from that
2 kind of stewardship commitment.

3 I have reviewed the Draft EIS for this
4 Early Site Permit and if it is determined, if it is
5 determined, that this site has to be used for a new
6 plant, at some point in the future, I'm confident that
7 PSEG will work to avoid as many impacts as it can.

8 And for those that are unavoidable, like
9 those impacts associated with the footprint of the
10 buildings, and we have heard about the access road, or
11 the causeway, or the grid stability transmission
12 lines, I'm confident that they will go above and
13 beyond to mitigate for these impacts.

14 My confidence stems from their track
15 record, and the excellent working relationships that
16 they have with environmental professionals of the
17 agencies, like the U.S. Army Corps of Engineers, U.S.
18 Fish and Wildlife Service, NOAA and, of course, DEP.

19 And also the professionals that are within
20 the environmental group community here in New Jersey.

21 And since I know, first hand, the
22 dedication and commitment, of many of these folks,
23 that PSEG will be working with, I bet that working
24 together, they will find ways to go beyond just
25 mitigating these impacts.

1 And they will look to achieve a net
2 benefit for our natural resources in this state.

3 There are many new and exciting cutting
4 edge approaches, and best management practices, that
5 can be implemented to achieve those net benefits.

6 And I know I do not have to urge PSEG, or
7 our state and federal agency professionals, to look at
8 these BMPs, as they already are doing so, elsewhere,
9 in many different arenas.

10 Green infrastructure, and nature based
11 approaches, like living shorelines, rain gardens for
12 storm water management, thin layer application of
13 dredge material to restore wetlands, while keeping
14 precious sediment resources in our estuaries.

15 These are just a few of the examples that
16 can be implemented at this site, to address the water
17 quality issues, restoration, and the loss of CDF
18 space.

19 While this may be a particularly
20 challenging time for considering any new power
21 generating facilities, because of sea level rise,
22 climate change, and ongoing loss of habitat, there are
23 many new forward looking programs, and research
24 projects, under way that are piloting new approaches,
25 like green infrastructure.

1 And that these will inform the future for
2 PSEG at this site.

3 I'm sure, based on PSEG's stewardship
4 record, that they will work together with our state
5 and federal agencies to be on that cutting edge, as
6 they go down this road, and to continue to be a
7 steward.

8 Thank you for this opportunity to provide
9 these comments.

10 FACILITATOR CAMERON: Thank you, Martin.
11 And Ed, for the record it is Mark McHugh.

12 MR. MCHUGH: Martin.

13 FACILITATOR CAMERON: Martin. Well, it
14 only took me three times. Thank you, Martin. Robert
15 Molzahn, and then we are going to go to Sam Osborn,
16 and thank you for your patience, we will get to you
17 soon.

18 MR. MOLZAHN: Good afternoon, my name is
19 Robert Molzahn, and I'm President of the Water
20 Resources Association of the Delaware River Basin, or
21 we call it WRA.

22 WRA is a 501(c)(3) non-profit organization
23 established in 1959, by representatives from industry,
24 public and private utilities, and other organizations
25 that had wide ranging interest in water resources, and

1 sought to ensure public participation in the
2 management of the Delaware River and its tributaries.

3 Excuse me, I have a little bit of a cold.
4 WRA is interested in PSEG's proposed project, because
5 PSEG's proposed nuclear plant will be a major water
6 user, located in the Delaware River basin, and is an
7 important part of the economy in New Jersey, and the
8 region at large.

9 At the May 6th, and November 20th, 2010
10 public meetings that the NRC held on this project, I
11 commented on the importance on providing additional
12 electrical generation capacity to meet the energy
13 needs of New Jersey residents and businesses.

14 Those comments are still applicable,
15 especially the need to provide baseload generating
16 capacity, which another speaker talked about,
17 supplemented by renewable energy resources, such as
18 wind and solar, in New Jersey.

19 I also mentioned that PSEG's new nuclear
20 unit will provide power for more than three million
21 homes each day. And, as compared to fossil fuel power
22 plants, there will be no greenhouse gas emissions,
23 such as CO2 or methane.

24 There also will be no SO2 or NOX
25 emissions, that would contribute to acid rain, or

1 nitrification of our waterways. There also will be no
2 mercury emissions that could detrimentally affect the
3 aquatic life in the Delaware River and the bay.

4 In reviewing the PSEG ESP application, and
5 Environmental Report filed on May 25th, 2010, we noted
6 that the new unit's intake and cooling system will be
7 designed to minimize the impact to the aquatic
8 community by utilizing cooling towers, and an intake
9 system with design flows that conform to best
10 available technology, as required by Section 316(b) of
11 the Clean Water Act.

12 The cooling tower blowdown discharge would
13 have little effect on the Delaware River at this
14 location, or significantly elevate river water
15 temperatures.

16 Consumptive water use is an important
17 issue on the Delaware River basin, especially during
18 drought periods. Although the proposed plant is
19 located in the saline estuary, fresh water will still
20 be evaporated by the cooling towers and, thereby,
21 consumed.

22 During declared drought emergencies, the
23 fresh water consumed should be replaced at an
24 appropriate ratio by using water release from the
25 Merril Creek reservoir near Phillipsburg, New Jersey.

1 PSEG, along with several other electric
2 generating companies, is a co-owner of Merrill Creek.
3 Water released from Merrill Creek helps in keeping the
4 salt line from moving upstream to the water intakes
5 for the city of Philadelphia.

6 Merrill Creek was financed, built, and
7 operated by electric generating companies for just
8 this purpose.

9 The Environmental Report indicates an
10 overall wetlands impact of 229 acres from the new
11 plant, and the proposed causeway. It is further
12 indicated that there is an abundance of wetlands, in
13 the vicinity, locating -- totaling more than 25,000
14 acres.

15 And the quality of the dominant species,
16 as we heard, is invasive phragmites. PSEG would
17 reduce environmental impacts by placing permanent
18 facilities inside currently diked areas in
19 compensation for use of these wetlands.

20 We would recommend that PSEG create or
21 restore, degraded wetlands within the Delaware Bay
22 region, at an appropriate compensation ratio.

23 This should also be achievable, this
24 should be an achievable undertaking, by PSEG, as their
25 Estuary Enhancement Program has been recognized

1 nationally, for restoring and protecting over 20,000
2 acres of wetlands. And we have heard quite bit about
3 that.

4 The existing PSEG existing nuclear complex
5 is an ideal location for the additional unit, because
6 all of the important conveyance systems are in place,
7 and will not have to be developed, and built, as with
8 a green fields site.

9 New improvements, such as roadways, should
10 be carefully placed and designed to minimize their
11 impact on marshlands. An elevated road system would be
12 a design that would help minimize these impacts.

13 We encourage, PSEG, to pursue such a
14 design, and develop a comprehensive wetlands
15 mitigation, and compensation plan for these impacts.

16 Sea level rise and storm surge are, also,
17 a concern at the proposed facility. Critical
18 structures should be elevated, or water proofed, at an
19 appropriate elevation, to ensure their protection.

20 The NRC should review these design plans
21 to confirm that they are protected for sea level rise.
22 WRA recognizes that PSEG has demonstrated a long-
23 standing commitment to the environment, and to their
24 credit, they have been a national leader in the
25 electric utility industry for emphasizing

1 environmentally sustainable solutions for operations.

2 I worked for Delmarva Power for 25 years,
3 and I can tell you that PSEG was the leader of the
4 pack in that regard.

5 And I guess that is it for me. Thank you
6 very much for letting me comment on the proposal.

7 FACILITATOR CAMERON: Thank you. And,
8 Sam? This is Sam Osborn

9 MR. OSBORN: Hello. My name is Sam Osborn.
10 I'm a resident here at Carneys Point. I live about a
11 mile from where we are sitting now. Actually my house
12 is 15 miles from the center of the nuclear plant
13 itself.

14 I know that because on the corner of my
15 property is a pole that has the old siren. Because
16 the safety zone used to be 15 miles, way long ago, in
17 fact that was back in 1980.

18 Some time in the '90s they moved the
19 safety zone back to seven and a half miles, but I
20 still have the pole and the siren. I wish you guys
21 would come and take the pole away, I'm tired of mowing
22 around it.

23 Three of my neighbors, within a block or
24 two of where I live, work on the island. They are
25 happy with their jobs, good paying permanent jobs.

1 That we need more of in Salem County.

2 This new plant will provide that. I have
3 been a big fan of nuclear power, since I started
4 working at Westinghouse, back in the mid early '70s,
5 I worked at the, right over, just on the other side of
6 the river, on the condensers, feedwater heaters, water
7 coolers, moisture separator reheaters, all the heat
8 transfer equipment on fossil nuclear plants.

9 I became convinced, after visiting a lot
10 of fossil and nuclear plants, that nuclear is the only
11 way to go.

12 Coal is so dirty, natural gas is better,
13 but it is not the long term solution. Thank you for
14 your attention.

15 FACILITATOR CAMERON: Thank you, Sam. And
16 Moe?

17 MR. HUFSEY: Thank you. My name is Moe
18 Hufsey. Thank you for giving me the opportunity to
19 speak today.

20 I am the nuclear business agent for IBEW
21 Local number 94, which represents 3,675 members who
22 are employed by the Public Service Enterprise Group,
23 in electric distribution and transmission, gas
24 distribution, and appliance service, electric
25 generation, and other work in support of those

1 operations.

2 Most important, for today, I represent
3 nearly 800 members who work at PSEG's existing nuclear
4 generating stations, Salem One, Salem Two, and Hope
5 Creek.

6 Those three plants have provided safe,
7 clean, and reliable electric power to the people of
8 New Jersey for 38 years.

9 PSEG Power, and PSEG Nuclear, have
10 proposed to add a fourth nuclear plant on this site,
11 one that could add up to another 2,200 megawatts of
12 clean, safe, reliable baseload power, to meet the
13 increasing demand for electricity in New Jersey.

14 I'm here to support that proposal. The
15 demand for electric continues to increase. Everything
16 is plugged in, these days, and we live in a 24-7
17 world.

18 For that we need baseload power. The new
19 nuclear plant could provide up to 28 percent of the
20 projected increase in baseload demand.

21 As we need the power to be clean power.
22 By law New Jersey must reduce CO2 emissions to 1990
23 levels, by 2020, and must meet a much tougher target
24 of 80 percent reduction, below 2006 levels, by 2050.

25 New Jersey is on track to meet the 2020

1 target. A big reason is because more than half of the
2 electricity used by New Jersey customers is generated
3 by nuclear plants which produce no greenhouse gas
4 emissions. They also produce no NOX, no SOXs, and no
5 particulates.

6 As much as New Jersey, and PSEG are
7 committed to renewable energy and energy efficiency,
8 I don't believe that there is any way that we can meet
9 the 2050 target without additional nuclear power.

10 Solar and other sources of renewable
11 energy are great for New Jersey. Members of Local 94
12 built some PSEG solar power plants.

13 But solar is not a substitute for round
14 the clock baseload power. And the only clean source
15 of that is nuclear.

16 Finally, let me talk about jobs. I am a
17 union leader, after all. A fourth nuclear power
18 plant, as proposed by PSEG, could mean about 600 new
19 full-time jobs, good quality jobs, running that plant.

20 That is extremely important here in Salem
21 County where the unemployment rate remains above the
22 state average, and where neighboring Cumberland
23 County, has the worst unemployment rate in New Jersey.

24 Building that new nuclear plant would also
25 bring in more than 4,000 construction jobs to the

1 site.

2 Statewide there are 20 IBEW locals
3 representing 35,000 members. I know how important a
4 project like this would be to my brothers and sisters
5 in the construction locals.

6 I will let the experts talk about the
7 economy. I just know that the direct effect of
8 thousands of operating and construction jobs is
9 vitally important here in south Jersey.

10 For all those reasons, to meet growing
11 demand, to help clean the air, and to provide good
12 high quality jobs, I support PSEG's new safe, clean,
13 and reliable nuclear power plant. Thank you.

14 FACILITATOR CAMERON: Thank you Moe. And
15 John Bobbit, and after John we are going to go to
16 Tanya Timberman, Greg Mayers, and Helene Pierson.

17 MR. BOBBIT: Good afternoon, my name is
18 John Bobbit. I'm 58 years old, I have one wife, four
19 children. I'm the second generation component of a
20 small business in Salem County.

21 I have lived here since, well, for the
22 last 55 years. The reason I'm here is as a member of
23 the Salem County Chamber of Commerce.

24 And, of course, the gentleman from the
25 state, he already recited my memorized speech. So I

1 would like to speak to you as a citizen and a resident
2 of Salem County.

3 I represent one wife. She asked me, Mr.
4 Joyce, whatever decisions get made, please keep her
5 lights on. I represent four children. They asked me
6 to make sure that the decision, that gets made here
7 today, keeps them safe, keeps them employed.

8 As a parent I ask that the decision that
9 gets made, here today, allows my children to have
10 their children remain safe, and employed, in a
11 community that has been so good to us.

12 Sitting there in the audience, and
13 listening to the comments, it occurs to me that those
14 in favor of this project, which I am one, are very
15 analytical.

16 It also appears to me, that those that
17 oppose it, are very passionate. Please do not let the
18 analytics lose the passion for the decision that must
19 be made here.

20 This power plant must be expanded, it must
21 move forward. There are risks, of course there are
22 risks. If they had told me what the risks were,
23 before my children were born, I probably would have
24 made a whole other set of decisions regarding raising
25 children.

1 But we must move forward, or we must
2 resign ourselves to going home and cooking our dinner
3 on campfires.

4 We have an opportunity to support an
5 extraordinary neighbor. PSEG has been an
6 extraordinary neighbor since they have arrived in
7 Salem County.

8 They support us, they employ us, they
9 protect us, and they do it in the most humble, soft-
10 spoken way, that makes it astonishingly, that they are
11 such a large and powerful company.

12 I am here, once again, as a resident, as
13 a father, as a husband, to support moving forward with
14 the permit. NRC, I'm very glad you are here to
15 regulate them, but please do not get this wrong.
16 Thank you.

17 FACILITATOR CAMERON: Thank you, John.
18 Tanya?

19 MS. TIMBERMAN: Good afternoon. I'm Tanya
20 Timberman, and I'm here to talk to you a little bit
21 about women and nuclear, and myself.

22 I'm a licensing engineer, former
23 environmental engineer. I'm also the vice president
24 of Women in Nuclear, our PSEG Chapter.

25 So what is Women in Nuclear? It is a

1 national organization of professional women and men
2 that promote environmental support, overall
3 excellence, and leadership and development of women
4 and nuclear.

5 It establishes a framework, within the
6 company, through which women can further their
7 professional development, including networking with
8 customers in the industry, and mentoring women.

9 It promotes public awareness about facts
10 on nuclear energy and the nuclear industry, from a
11 career interest in engineering and nuclear
12 technologies.

13 And, currently, our chapter has over 100
14 members. WIN offers a lot of opportunities, both
15 professionally, and personally.

16 We have informal mentoring, amongst our
17 members, professional development workshops, lunch and
18 learn sessions, for learning about our plants and
19 industry issues, including the recent Fukushima event.

20 We host video discussions on how your body
21 language shapes who you are, and when to sit at the
22 table by Charyl Sandber.

23 We also encourage, our members, to go
24 outside of their comfort zone, and continue in
25 furthering their career.

1 We provide personal support. We have a
2 lot of new moms and moms-to-be, who find it very
3 helpful to use WIN as the support and networking
4 group.

5 In short, WIN educates and develops their
6 members, so they can comfortably advocate nuclear to
7 their family, and their communities.

8 How safe is it to work at PSEG Nuclear?
9 I get asked that question from my family and friends.
10 And also the question, are you scared to work there?

11 Being an environmentalist, and an outdoor
12 enthusiast, having environmental science degree and a
13 civil engineering degree, I can honestly answer it is
14 safe to work at a nuclear generating stations.

15 I was born and raised in Salem County and
16 I'm one of the 40 percent that Tom had mentioned, that
17 is employed at Nuclear.

18 I graduated from Charlotte high school in
19 Petersboro Township, I graduated from Stockton College
20 and Drexel University. I worked in the environmental
21 field for 15 years now, and I'm very familiar with the
22 tough environmental rules and regulations in the state
23 of New Jersey.

24 The state is one of the few that has such
25 strict regulations. And having worked in the

1 environmental department at the stations, I can assure
2 you that the plants at PSEG perform very well in
3 meeting our state's regulations.

4 It is very clean, and green energy. And
5 being a local, this is very important to me, and my
6 family. So, no, I'm not afraid to work there.

7 True story. Prior to working at nuclear,
8 I was a municipal engineer for a small firm in
9 Cumberland County. And when I was offered the position
10 at nuclear, my family was concerned about me working
11 at a nuclear power plant.

12 Since then I have advocated, and educated
13 my family, friends, and home town, that nuclear is
14 very safe.

15 Hearing my personal stories about working
16 at Salem and Hope Creek, my family and friends' fears
17 were quickly eased, and they now advocate with me.

18 They are proud to say their daughter,
19 their sister, their wife, works at the nuclear
20 facility. As a matter of fact, my four year old
21 nephew happily tells his friends that his aunt works
22 at the power plant, and he knows that we make power to
23 turn the lights on.

24 What does the potential new nuclear plant
25 mean for the community, for WIN, and for me? For me

1 this means that I can be happily employed until I
2 choose to retire.

3 It is also beneficial to our WIN members,
4 who want to continue, and further, and develop their
5 careers, and provide for their families.

6 The new plant for the community means more
7 jobs, a source of clean, and safe, and reliable
8 energy. However, these opportunities are not only for
9 me, or our WIN members, but also for those that we
10 have been reaching out to, the younger generation in
11 grade school.

12 That is why it is so important that we
13 reach them at a young age, encourage them to go to
14 college, and hire them when they graduate.

15 This would come full circle. Our outreach
16 making an impact on our local community, and providing
17 opportunities for the young generation, like myself.

18 Thank you.

19 FACILITATOR CAMERON: Thank you Tanya.
20 And Greg Mayers?

21 (No response.)

22 FACILITATOR CAMERON: Okay, let's go to
23 Helene, and after Helene we are going to get to
24 Anthony Lowman, Jason Helder, Rich Heffron, and Zack
25 Ahl. Sorry, go ahead.

1 MS. PIERSON: Good afternoon. I'm Helene
2 Pierson, and I am the project manager at Stand-Up for
3 Salem, a community development corporation in Salem
4 City.

5 Prior to coming to Stand-Up for Salem,
6 also known as Salem Main Street, one year ago this
7 week, I worked in Camden, New Jersey, at the heart of
8 Camden, and South Camden, and environmental justice
9 community, where we fought hard on environmental
10 issues, with industry that poorly affected air
11 quality.

12 I can't tell you how happy I am to be here
13 today, to be supporting PSEG, whose operations led to
14 clean air in its operations.

15 One of the things, that has astounded me
16 the most, in coming to Salem City, is that I, and it
17 was said earlier, that you might hear NIMBY comments.

18 I have never heard, in Salem City, in
19 interacting with many community people, any adverse
20 comments against PSEG from its residents.

21 I have seen no NIMBY in Salem City. And
22 that amazes me. So I'm here, today, to speak, to put
23 just a few details behind the large positive impact
24 that they do have on the community, in partnership
25 with, certainly, our non-profit, and many others, in

1 supporting the community where they reside.

2 I run the Neighborhood Revitalization
3 Program and PSEG has been a partner in New Jersey, in
4 Camden, when I worked there. And in Salem City they
5 are now really raising the bar of community
6 involvement.

7 For a long have they been supporting all
8 the community events, the farmers markets, the block
9 parties, activities for youth. But now we are in a
10 much more substantial partnership to revitalize Salem
11 City.

12 In our first effort working together we
13 are, this year, touching 165 different properties in
14 Salem City, transforming some of them into community
15 gardens, doing facade improvements, and knocking down
16 and demolishing some properties that just needed to
17 come down, as a last resort, when other funding wasn't
18 available.

19 And, literally, some of them are just
20 hanging there, after fires, for years. And PSEG has
21 improved the quality of life in the community, via our
22 partnership.

23 There now, and I think next up is Rowan
24 University, where now, at PSEG's urging, working with
25 Rowan on some upcoming projects, soon. We are in the

1 discussion stages to even work further on some issues
2 in Salem, that PSEG themselves chooses to get involved
3 in.

4 And that is improving water lines, and
5 reuse of landfills, among other things.

6 The other thing you notice, when you get
7 to Salem City is that PSEG breeds our leaders. And it
8 doesn't take long for you to find that many of our
9 government leaders, or elected government leaders,
10 have been or are still PSEG employees.

11 Our community gardens are run by PSEG
12 employees who put in many, many volunteer hours in
13 community efforts, and teaching others as well.

14 And I also find that the employees of PSEG
15 are some of our most engaged community residents in
16 community meetings.

17 So it was said earlier, to hold PSEG's
18 feet to the fire and they will come through. I would
19 even amend that to say that they've always been true
20 community partners and you don't even need to hold
21 their feet to the fire, you engage them in
22 conversation, and they will willingly work with you to
23 improve the situation for all.

24 Just to make the point of how this isn't
25 an aloof industry, this is a true industry that always

1 engages with its community.

2 I can tell you, over the past -- a little
3 over ten years, Joe Barton, Joe DelMar, Mike Coil, we
4 know them by name. And that is not always the case.

5 So I'm here to just commend a tremendous
6 community partner in PSEG. Thank you.

7 FACILITATOR CAMERON: Thank you. Thank
8 you, Helene. Anthony?

9 MR. LOWMAN: Hello. My name is Anthony
10 Lowman, and I'm here representing Rowan University.
11 I currently serve as the dean of the college of
12 engineering, at Rowan University in Gloucester County,
13 just up the road.

14 My background, I could be here for a
15 number of reasons. My background is I have a
16 bachelors and PhD in chemical engineering, and I spent
17 the early portion of my career, working in the nuclear
18 power industry, and the energy industry as a whole.

19 I'm also a resident of Gloucester County,
20 and I'm a Delaware River boater. So I could offer my
21 opinion, and my support for a number of reasons.

22 But today I wan to talk, and follow-up on
23 Helene's comments about PSEG as a good neighbor. So
24 Rowan University, we are the second comprehensive
25 research university in the State of New Jersey.

1 We received that designation in the summer
2 of 2013. We are the only research university, in the
3 southern half of New Jersey and we have a majority,
4 probably approaching about 75 percent of our students,
5 are residents, or come from the southern half of the
6 state.

7 Particularly in my college that holds
8 true. Our college of engineering is growing rapidly.
9 We have doubled in growth from 500 students, five
10 years ago, to over 1,100 students now.

11 And we are on our way to approaching 2,000
12 students in the next five years. So we are a large
13 engineering school drawing from the lower half of New
14 Jersey residents in this area.

15 Our kids come from PSEG's home territory.
16 Since the college of engineering started, 20 years
17 ago, PSEG has been involved with the development of
18 the college from day one.

19 The first students who enrolled in the
20 program received tuition free education, through a
21 program known as the Pride Scholarship.

22 Primarily that was supported by a gift
23 from Henry Rowan, who the university was named after.
24 But many local industries contributed to this
25 scholarship program.

1 And PSEG was one of the first, and
2 largest, contributors to this program, to educate
3 students in southern New Jersey.

4 In the 20 years PSEG has been a tremendous
5 supporter of our engineering programs, as well as the
6 university-based programs, ranging from scholarships
7 to students, supporting our engineering education
8 programs.

9 And what I think, to me, is the most
10 important contribution to us, is through our K through
11 12 educational outreach programs.

12 And why do I say that is the most
13 critical? In my role as dean in interface with just
14 about every major employer of engineering students,
15 within the Delaware Valley, throughout the Delaware
16 River Valley, as a whole.

17 I also work with a number of government
18 agencies, the National Science Foundation, National
19 Institute of Health, Department of Energy, Department
20 of Defense.

21 To a fault every agency, every major
22 employer states that we are facing a crisis, and that
23 we are not going to have enough, or not a large enough
24 trained workforce in the stem field, science,
25 technology, engineering and mathematics will be at

1 2020.

2 And that threatens the United States'
3 position as a global leader in technology, if we don't
4 have that pipe line, and that workforce of technically
5 trained students.

6 So at Rowan University we run a number of
7 programs targeted at middle school and high school
8 populations, particularly with an emphasis on
9 attracting women and minorities into these programs.

10 So these programs that we have are AWE,
11 which is attracting women in engineering program, for
12 6th through 9th grade women. We have a parallel
13 program for young men, BEST, boys in engineering and
14 science technology.

15 And we have a program, RISE, targeted
16 toward high school students of both genders. PSEG has
17 been our naming sponsor for these programs, since
18 their inception about five years ago.

19 And with their support we have brought
20 almost 700 students, from Southern New Jersey, through
21 these programs. Many of whom now are looking and
22 seeing that the first group of these students are now
23 coming through Rowan as engineering students, as well
24 as enrolling in a number of engineering schools
25 throughout the region.

1 So we are very happy to have that support.
2 And, certainly, without that support, we wouldn't be
3 able to offer that program nearly free of cost, to any
4 student who wants to attend in the region.

5 And with their support we hope to double
6 the number of students that we have been bringing
7 through these programs.

8 So while a lot of the companies in the
9 region have spoken the right words, and said we are
10 going to support it, we need these future students to
11 become our workforce down the road, they really put
12 their money where their mouth is.

13 And if I want to tell you about our
14 statistics, I can tell you, in the last 15 years that
15 we have graduated engineers, only 30 of them have
16 actually gone on to work at PSEG. So about two per
17 year.

18 Now, that is not because of lack of
19 interest, that is simply because that is all they can
20 get. The demand for engineering students, right now,
21 is high.

22 We have a 95 percent placement rate on
23 graduation. So I have no doubt that if we had
24 students that needed a job, that they could find a
25 home down here, in PSEG. It is just simply they can't

1 get their hands on it.

2 But if you look at it, the number of
3 students that they are willing to reach, they are
4 willing to reach these students, they are willing to
5 help us develop a technically trained workforce.

6 But knowing that they are not really
7 spending their money just for their pipeline, they are
8 spending their money to develop a pipe line of
9 engineers, that are going to be going to work in this
10 region.

11 So for us that is an important partner to
12 have. Other support that they do for our college of
13 engineering, is in our engineering clinic programs.

14 That is our hands-on experience learning
15 that is unique to the Rowan curriculum, that threads
16 through the entire four years of the student's
17 education.

18 And they sponsor our clinic projects, no
19 matter if it is something of interest to their
20 company, or not, it is for the training of our
21 students.

22 These projects range from some that have
23 been of interest to their program, such as using an
24 engineering design team to help solve a flooding
25 problem in their parking lot, to wetlands restoration,

1 to remediation.

2 We use money for remediation after
3 hurricane Sandy. To students working on projects
4 related to peripheral nerve growth for developing
5 artificial medical devices.

6 So their support has gone a long way to
7 helping us train engineers. I think last I would just
8 like to say, you know, I think it is important to have
9 a partner like that in the region, as an engineering
10 school.

11 They help us train our students, they help
12 us drive the directions of our programs, and it is --
13 I think they are great for our region. And certainly
14 what they do, going forward, is going to be a benefit
15 to all. So thanks.

16 FACILITATOR CAMERON: Thank you, thank you
17 very much, Anthony. Jason?

18 MR. HELDER: Good afternoon. My name is
19 Jason Helder, I'm the principal at the Salem County
20 Vocational School.

21 I want to thank the NRC for the
22 opportunity to speak this afternoon, and to give an
23 opportunity for community members to voice their
24 opinion, and any concerns they may have.

25 I'm here today because I certainly support

1 the opportunity for PSEG to apply for the site permit
2 for another nuclear reactor here in Salem County.

3 As the principal of the vocational school,
4 you have heard a lot of statistics, and I won't repeat
5 any of them in term of job creation. But there is an
6 obviously direct connect and benefit to the vocational
7 school, for a project like this to occur.

8 At our school we have a program that
9 trains students in architectural drafting, and
10 construction, in electrical and welding. Certainly
11 people what would have immediate impact from a project
12 of this nature.

13 I have been the principal of the high
14 school for the past five years. I have been an
15 employee in the district since 2001. And there has
16 been no other project like this in Salem County, that
17 would create that type of job creation, here locally,
18 for our students.

19 To piggy back off some of what the
20 gentleman before me just said, PSEG not only stops at
21 the college level, but they have been absolutely
22 instrumental in preparing students, at a high school
23 level, for careers in nuclear engineering, and for a
24 multitude of jobs down at PSEG.

25 They were instrumental in the creation of

1 an Academy for Nuclear Applications and Energy
2 Applications at the technical high school.

3 And when I say instrumental, not jus that
4 there was an idea, and they proposed it to us, and we
5 put together our program. They helped us write a
6 curriculum, and build a program that is rooted in
7 safety, that is rooted in benefit to high school
8 students.

9 And it is a great program. We have
10 produced students in each of the last two graduating
11 classes, that are now engineering students at Rowan
12 University, taking part in some of the programs that
13 were just mentioned.

14 They have also been very impactful to the
15 program that is now offered, right here, on campus
16 here at Salem Community College, in a nuclear
17 engineering program, to prepare students.

18 PSEG is very thoughtful in how they go
19 about this. They have an energy resource center that
20 is available to students of all ages, here in Salem
21 County.

22 Its doors are always open. It is
23 presented in a way that makes energy conservation, and
24 safety, very real to young children, elementary,
25 middle, and high school.

1 And each time that I have had a field trip
2 go to the EERC, or even been fortunate enough to have
3 students go down to the nuclear power plant there has
4 been nothing but safe, educational, and valuable
5 experiences for all of our students.

6 They even go back so far as to support and
7 advocate for a county-wide career exploration program,
8 that allows even 7th and 8th grade students to gain
9 exposure to areas of science, technology, engineering,
10 and math.

11 So, you know, for all those reasons, the
12 vocational school is happy to see a project like this
13 on the horizon, with the opportunity for creation of
14 jobs, and for our students who are learning about
15 these many areas, to put those learning experiences
16 into action.

17 Thank you.

18 FACILITATOR CAMERON: Thank you, Jason.
19 Rich Heffron?

20 MR. HEFFRON: My name is Rich Heffron, I'm
21 president of the Delaware State Chamber of Commerce.
22 I'd like to thank the NRC for this opportunity. I
23 believe I'm the next to the last speaker, so will do
24 this as quickly as possible.

25 You have heard about PSEG's stellar

1 environmental record. We have heard about what a good
2 neighbor they are. We were told, today, about what
3 they do for this section of south Jersey, and for the
4 State of New Jersey.

5 I'm here to tell you why this project is
6 important to the economy of Delaware, which is
7 important, obviously to my members, my 1,800 members
8 of businesses, the whole business community in
9 Delaware, and to our residents.

10 There are two things. We have recovered
11 from the recession about 85 percent of the jobs that
12 we lost. But if you look at our personal income tax
13 collections, it is obvious that these jobs are not
14 paid nearly the amount of the jobs that we lost.

15 Our construction industry was devastated,
16 and it is still having a difficult time recovering
17 from that recession. This project will create
18 somewhere in the range of about 400 construction jobs
19 for Delawareans.

20 It will also create somewhere around 120
21 to 130 permanent jobs for Delawareans. That is
22 important to us, as we try to recover from the
23 recession.

24 On top of that we have one of the most
25 expensive costs of energy, not only in this region,

1 but in the United States. And we have made efforts to
2 lower it.

3 This project, itself, has the potential to
4 reduce transmission congestion which, consequently,
5 will lower the cost of energy in our state.

6 About 30 percent of the energy that we use
7 comes from this nuclear plant. So we, obviously,
8 support this project, and we would like to see it move
9 as quickly as possible. Thank you very much.

10 FACILITATOR CAMERON: Thank you, Rich.
11 And is Zach, Zach Ahl here?

12 (No response.)

13 FACILITATOR CAMERON: Have I missed
14 anybody?

15 (No response.)

16 FACILITATOR CAMERON: I'm going to turn it
17 over to Jennifer to close our meeting.

18 MS. DIXON-HERRITY: I want to thank you
19 all for attending this meeting today, and for your
20 participation. We appreciate all the comments that we
21 have received.

22 The next steps in our process will be to
23 go back and to evaluate all the comments that we have
24 received, from you today, and from the comments that
25 we will continue to receive through November 6th.

1 Those comments will be analyzed, we will
2 compare it to the Environmental Impact Statement, we
3 will look for areas where we need to correct things,
4 where we can improve things.

5 And, hopefully, we will end up improving
6 our document.

7 Thank you very much, and you all have a
8 nice evening.

9 (Whereupon, at 3:30 p.m., the above-
10 entitled meeting was concluded.)

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Early Site Permit Public Hearing Testimonial

Wednesday, October 1st

1:00pm

Salem County Community College – David Dow Hall

(3-5 minutes for testimonial)

Tanya Timberman, Sr. Licensing Engineer (formerly Sr. Environmental Engineer) and Vice President of Women in Nuclear, PSEG Chapter

I am of 40% v Salem County residents employed at PSEG that Tom mentioned of PSEG employees is a national

Women in Nuclear, also known as WIN, is an organization of professional women and men that:

- Promotes an environment that supports overall EXCELLENCE and the leadership development of women in nuclear.
- Establishes a framework within the company through which women can further their professional development, including networking with customers in the industry and mentoring women.
- Promotes public awareness about facts on nuclear energy and the nuclear industry and promote career interest in engineering and nuclear technologies.

-Our Chapter, at PSEG Nuclear, consists of over 100 members!

-WIN offers a lot of opportunities, both professionally and personally.

- Informal mentoring amongst our members, professional development workshops, lunch and learn sessions for learning about our plants and industry issues (i.e. the recent Fukushima event), video discussions on how your body language shapes who you are... and when to sit at the table;
- We also provide personal support, we have a lot of new moms and moms-to-be who find it very helpful to use WIN as a support group;
- We also encourage our WIN members to go outside of their comfort zone and grow in the career.

WIN educates & develops their members so they can comfortably advocate Nuclear to their families + communities.

-How safe is it working at PSEG Nuclear?

I used to get asked questions from my family and friends "Is it safe there?" "Are you scared to work there?"

Being an extreme environmentalist and having an Environmental Science degree, I can honestly answer, it is safe to work at the Nuclear Generating Stations.

Pittsine Twp

I was born and raised in Salem County, graduating from Schalick High and then from Stockton College. I've worked in the Environmental field for over 15 years now, so I am very familiar with the tough environmental rules and regulations of New Jersey. This state is one of the few that has such strict regulations, and having worked in the Environmental department, I can assure you, the plants at PSEG perform very well in meeting our state's strict environmental rules. It is very clean energy. *a green energy, this is very important to me + my family.*

Drexel University

No, I am not afraid to work here. True story, prior to working in Nuclear, I was a municipal engineer for a local firm in Cumberland County. When I was offered the position at Nuclear, my

family was concerned about me working at a nuclear power plant. Since then, I have advocated and educated all of my family, friends, and hometown, that Nuclear is very safe.

Hearing my personal stories about working at Salem and Hope Creek, my family and friends "fears" were quickly eased, and they now advocate with me. As a matter of fact, my 4 year old nephew is ^{happy} proud to tell his friends that his Aunt works at the "Power Plant".

They are proud to say, their daughter, their sister, ^{their wife} works at the Nuclear facility.

-What does a potential new nuclear plant mean for the community/WIN/me?

For me, this means I can be happily employed until I choose to retire! It is also beneficial to our WIN members who want to continue to further and develop their careers.

A new plant for the community means more job opportunities and a continued source of clean, safe and reliable energy. However, these opportunities are not only for me or our WIN members, but also for those we have been reaching out to, the younger generation in grade school. That is why it is so important we reach them at a young age, encourage them to go to college, and hire them when they graduate. THIS would come full circle, our outreach, making an impact in our local community, and providing opportunities for the young generation, *like myself.*

MICHAEL P., WEINSTEIN, Ph.D.
(973) 309-2043 (C)
mweinstein_fishguy@verizon.net

[THANK YOU FOR THIS OPPORTUNITY TO SPEAK]

I noticed that part of U.S. NRC's logo included the phrase *Protecting People and the Environment*, I assume as an integral part of its mission. I happen to be in the very same business, and would like to cast my comments in this context.

My name is Michael P. Weinstein, I am currently semi-retired but working half-time at the *Center for Natural Resources Development and Protection* at the New Jersey Institute of Technology. I am the former President & CEO of the New Jersey Marine Sciences Consortium where I also served as Director, New Jersey's Sea Grant College Program. The latter is one of some 31 programs nationwide. At the time, I was also a Visiting Scholar at Rutgers University where I undertook my research program and supported

graduate students.

In my capacity as a Sea Grant College Program Director, and as a “practicing” coastal ecologist and wetland scientist, I partnered with PSEG to develop a 5-year initiative called the *Marsh Ecology Research Program* funded with a 1:1 matching contribution of Federal and Company funds totaling \$1.5 million for the granting period. Competitive grants were awarded in 11 states and contributed to the peer-reviewed literature base on marsh ecology and restoration science. During this same period, PSEG was also a major contributor to the publication costs of *Concepts and Controversies in Tidal Marsh Ecology*. This allowed the book to come out at an affordable price for faculty, and especially for graduate students. In its time, it became the “go to” source for current research in the tidal marsh ecology. The Company also contributed to a peer-reviewed Special Issue of the *Journal Estuaries* entitled *Phragmites australis: A Sheep in Wolf's Clothing?* which reviewed the state of

the science and impacts of this aggressive biopollutant.

I introduce all of the foregoing because an absolutely critical element for moving forward with the contributed funds was that they in no way influenced the public use of collected data. These data were “owned” by the Principal Investigators who published their results as they saw fit. I do not believe that many corporations would accede to this type of provision, as much was at stake for the Company. Many dozens of journal papers, book chapters, etc. were published during the MERP years, and its companion programs, all of which contributed significantly to advancing scientific knowledge that the role of tidal salt marshes plays in coastal ecosystems. Among the outcomes of the initiative was receipt of Coastal America’s *Spirit Award* for NJMSC’s multifaceted *Habitat Initiative*. In his congratulatory letter, CEQ Director, James L. Connaughton commented “the expansion of the Marsh Ecology Research Program into the NJMSC Habitat

Initiative has developed a comprehensive program that includes research projects that provide important information to decision makers” ... [and] “increasing stewardship ethics and the literacy of teachers, students and parents...”.

The nearly 32 square miles of PSEG’s Estuary Enhancement Program, to date I believe is still one of, if not, the largest privately funded restoration undertaking worldwide that consists mainly of newly enhanced, restored and/or preserved wetlands, all of which contribute materially to New Jersey \$3 billion commercial and recreation fisheries base, but also to wetland acreage that has taken center stage in efforts to build a climate resilient nation by protecting people, property and the environment against the ravages of severe storms. ~~The~~ ^Comments appearing in *Federal Actions for a Climate Resilient Nation, Progress Report* ~~was issued by the Interagency Climate Change Adaptation Task Force on 28 October 2011~~ ^{INCLUDED FOR} included the use of coastal wetlands as “green infrastructure” for

storm buffering and to contribute to the success of the nation's fisheries. ~~Similarly~~ ^{SO DID the PRESIDENTS} Executive Order 13547 was issued from the President's office in July 2010 to establish a ~~National Policy for Stewardship of the Ocean and Coasts~~, as well as the formulation of the National Ocean Council (NOC) to advance policy in a ~~Strategic Action Plan~~ for resiliency and adaptation to climate change; ~~all of this using Ecosystem Based Management (EBM) strategies;~~ and recognizing that climate change exacerbates existing stresses and negatively impacts communities that rely on natural resources for their livelihood and economic prosperity. As part of this effort, the Federal government is developing a ~~National Fish, Wildlife, and Plants Climate Adaptation Strategy~~, and Congress called for this strategy to be co-Led by U.S. Fish and Wildlife Service (USFWS), NOAA, CEQ, and ~~State wildlife agencies~~.

Long after these Artificial Island power plants and their infrastructure are gone, EEP's wetlands will continue to serve these critical ecological and societal functions,

and not only produce fish and shellfish of the “right kind”, but in copious numbers. It will also help protect people and property in the region against storm related impacts. John Cairns, a leading restoration ecologist who coined the term “ecosocietal restoration”, stated it well nearly 40 years ago when he distinguished between the public perception of restoration practices and scientific knowledge [AND I QUOTE]:

... the characteristics of restored ecosystems are bound by two general constraints, the publicly perceived restoration and the scientifically documented restoration. For example, recovery may be defined as restoration to usefulness as perceived by the users of the resource. This is significantly different than restoration to either the original structure or the original function (or both) as rigorously determined by scientific methodology.”

Cairns noted also that societal constraints place practical limits on the outcomes of restoration efforts.

So Why have I said all of this? It is because the proposed project will result in the unavoidable loss of 108 acres of *Phragmites*-dominated wetlands that will require mitigation in some form. Having worked with PSEG personnel since 1994 on various aspects of the Estuary Enhancement Program, and witnessed first-hand, a willingness and commitment to doing the “right thing”, and to be diligent and rigorous in their efforts to avoid and minimize impacts of the project on natural resources. More than 50 specialists in ecology, design and construction of coastal wetlands have participated in implementing and/or evaluating the EEP during the last two decades. This is EcoSocietal Restoration at its best!

In closing, I am absolutely certain that a satisfactory effort to replace these lost wetlands will be undertaken

by the Company to the vast satisfaction of the majority of the public, resource and regulatory agencies, both Federal and State, and a broad array of decision makers. They have done this admirably before, involving a multidisciplinary group of the nation's best scientists, and quality engineers to design and implement their marsh restoration plan. I see no reason that they will not do the same again, inviting in the top technical talent to achieve their mitigation objectives. Thank you.

**Water Resources Association
of the Delaware River Basin
Statement before the Nuclear Regulatory Commission
PSEG Early Site Application
October 1, 2014**

My name is Robert F. Molzahn and I am President of the Water Resources Association of the Delaware River Basin or WRA. WRA is a 501c3 non-profit organization established in 1959 by representatives from industry, public and private utilities and other organizations that had wide-ranging interests in water resources and sought to ensure public participation in the management of the Delaware River and its tributaries. WRA is interested in PSEG's proposed project because PSEG's proposed nuclear plant will be a major water user located in the Delaware River Basin and is an important part of the economy of New Jersey and the region at large.

We understand that this meeting is to receive public comments for the Draft EIS for the Early Site Permit at the PSG site of the Salem-Hope Creek Generating Stations.

At the May 6 and November 10, 2010 public meetings that the NRC held on this project I commented on the importance of providing additional electrical generation capacity to meet the energy needs of New Jersey residents and businesses. Those comments are still applicable especially the need to provide base load generating capacity supplemented by renewable energy projects such as wind and solar in New Jersey. I also mentioned that PSEG's new nuclear unit will provide power for more than three million homes each day and, as compared to fossil fuel power plants, there will be no greenhouse gas emissions such as CO₂ or methane. There will also be no SO₂ or NO_x emissions that would contribute to acid rain or nitrification of our waterways. There will also be no mercury emissions that could detrimentally effect aquatic life in the Delaware River and Bay.

In reviewing the PSEG ESP Application and Environmental Report filed on May 25, 2010, we noted that the new units intake and cooling systems will be designed to minimize the impact to the aquatic community by utilizing cooling towers and an intake system and design flows that conform to Best Available Technology as required by Section 316(b) of the Clean Water Act. The cooling tower blowdown discharge should have little effect on the Delaware River at this location or significantly elevate river water temperatures.

Consumptive water use is an important issue on the Delaware River Basin, especially during drought periods. Although the proposed plant is located in the saline estuary, fresh water will still be evaporated by the cooling towers and thereby consumed. During declared drought emergencies the fresh water consumed should be replaced at an appropriate ratio by using water released from

the Merrill Creek Reservoir near Phillipsburg, NJ. PSEG, along with several other electric generation companies, is a co-owner of Merrill Creek. Water released from Merrill Creek helps in keeping the "salt line" from moving upstream to the water intakes for the City of Philadelphia. Merrill Creek was financed, built and operated by electric generating companies for just this purpose.

The Environmental Report indicates an overall wetlands impact of 229 acres from the new plant and proposed causeway. It is further indicated there is an abundance of wetlands in the vicinity totaling more than 25,000 acres and the quality of the dominant species is invasive *Phragmites*. PSEG would reduce environmental impacts by placing permanent facilities inside currently diked areas. In compensation for use of these wetlands we would recommend that PSEG create or restore degraded wetlands within the Delaware Bay region at an appropriate compensation ratio. This should be an achievable undertaking by PSEG as their Estuary Enhancement Program has been recognized nationally for restoring and protecting over 20,000 acres of wetlands and adjoining properties in the Delaware Estuary in both New Jersey and Delaware.

The existing PSEG's existing nuclear complex is an ideal location for an additional unit because all of the important conveyance systems are in place and would not have to be developed and built as with a Greenfield site, new improvements such as roadways should be carefully placed and designed to minimize their impact on marshlands. An elevated road system would be a design that would help minimize these impacts. We encourage PSEG to pursue such a design and develop a comprehensive wetlands mitigation and compensation plan for these impacts.

Sea level rise and storm surge are also a concern at the proposed facility. Critical structures should be elevated or waterproofed at an appropriate elevation to ensure their protection. The NRC should review these design plans to confirm they are protective for sea level rise.

WRA recognizes that PSEG has demonstrated a long-standing commitment to the environment and to their credit has been a national leader in the electric utility industry for emphasizing environmentally sustainable solutions in their operations.

Thank you for the opportunity to comment on the environmental and water related aspects of the Early Site Permit Application submitted by PSEG.

Prepared Remarks by Lynn K Miller

Good afternoon, my name is Lynn Miller, a 41 year resident of Salem County. I am a former employee of PSEG and worked most of those years at the Salem/ Hope Creek facilities. I held various positions during that time including Plant Manager of the Salem Nuclear Power plant.

A few years ago, my wife and I were touring the country of France. In the course of that tour, we passed by a French nuclear power plant, The tour guide pointed out with pride the fact that 80% of their electricity is produced from nuclear power. He went on to say that France has been well served from their commitment to using nuclear energy. His comment caused me to reflect upon the question " Is our country being well served by using nuclear energy?"

I have read the environmental documents prepared for the issuance of an early site permit and I believe they are thorough and well prepared. I would like to leave you with a few collective thoughts that have accumulated since I retired from being a nuclear worker and now an outsider looking in at the nuclear industry.

1. Since the use of nuclear power began, millions and millions of tons of carbon dioxide and other air pollutants have not entered the atmosphere.
2. The people of New Jersey and the region have benefited from the cost competitive electricity generated from the Salem/Hope Creek plants.
3. Over the years, a healthy relationship between the regulators and the plant operator has strengthened the safety and operation of the facilities.
4. The development of a safety culture over the years that has been anchored by a results oriented and effective corrective action program.

I believe nuclear power has a necessary part to play in our nation's energy future. New Jersey and our nation, like France, is being well served by nuclear power. The issuance of PSEG's Early Site Permit is an important step to that end. Thank you.

Public meeting of the Nuclear Regulatory Commission on the Draft EIS
for a request for an Early Site Permit by PSEG,
Salem, New Jersey, October 1, 2014

On behalf of the Maryland Conservation Council I want to thank you for the opportunity to speak here today. We conclude that the review team has done an excellent job in producing the DEIS, but we think that its conclusion to approve the Early Site Permit for the reactor can and should be strengthened regarding concern about climate change.

The issue of climate change and anthropogenic CO₂ is considered important enough that review team devoted two pages to its discussion in section 9.2.5, in addition to mentioning CO₂ emissions throughout the DEIS. The MCC believes that climate change is among the most serious threats to both modern civilization as well as the natural world, which is our mission to protect.

Table 9-5 compares the (smaller) CO₂ emissions from the proposed reactor with those expected from a selected combination of alternatives which includes renewables. They differ by about 3 orders of magnitude, meaning that nuclear power is significantly more effective in stabilizing climate than any PRACTICABLE combination of alternatives that would be available in the foreseeable future.

Climate and energy policy have been discussed in great detail by the US NAS and NAE in a series of about 100 book length reports published over the past 30 years. The Academy is one of the most respected scientific organizations in the world and has been the official advisor to the US government on technical matters since its establishment by the Lincoln administration during the Civil War. It's puzzling that neither the news media, nor the nuclear industry have given the conclusions reached by this prestigious organization the attention they merit.

Let me now summarize them. The scientific finding that bears most critically on climate policy is the recent understanding that emission of CO₂ to the atmosphere is essentially an irreversible process when compared to relevant human time scales of decades or centuries. The Academies estimate that a slug of CO₂ emitted today will be reduced by only half in 1000 years, that 1/4th will still be present in 10,000 years and that 100,000 years will be required to remove it all.

Three critical conclusions can be drawn from this new understanding: First, that we must reach zero CO₂ emissions ASAP, because what is emitted this year is with us for a millennium. Second, that at the current state of technology, wind and solar installations require backup by a "fast responding" power source, and the only one available today is CO₂ emitting natural gas turbines. And third, that nuclear power must be used as an essential component for producing carbon-free primary energy.

Nuclear power can also be used for industrial process heat, and well as heat for buildings, whereas wind cannot, and solar installations in deserts cannot supply heat to industrial or population centers.

We respectfully request that the major findings from the National Academies be mentioned in the final EIS.

Dr, Norman D. Meadow
First Vice President, Maryland Conservation Council
Principal Research Scientist, retired; Dept. of Biology, The Johns Hopkins University

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**Three critical points on Carbon-free Energy Production, taken from publications by the
National Academies and the Department of Energy**
(Titles are given at the end. All **bolding** is added emphasis)

1) THE NEED TO ATTAIN ZERO EMISSIONS OF CO₂

When the news media mention measures to stabilize the atmosphere, they rarely if ever include the ultimate necessity of essentially ending all carbon emissions. Usually, the greatest restriction mentioned is an 80% reduction compared to the amount of CO₂ emitted during some reference year in the recent past. The report quoted below states that 80% reductions will merely stabilize concentration existing at the time that the reduction in emissions is achieved, and will not result in a reduction of the concentration because CO₂ is removed from the atmosphere by natural processes very slowly.

Quotations from: *Climate Stabilization Targets*

Page 9: "Because human carbon dioxide emissions exceed removal rates through natural carbon "sinks," keeping emission rates the same will not lead to stabilization of carbon dioxide.

Emissions reductions **larger than about 80 percent**, relative to whatever peak global emissions rate may be reached, are required to **approximately stabilize** carbon dioxide concentrations for a century or so at any chosen target level (see Figure Syn.3)."

Page 14: "Moreover, emissions reductions larger than about 80% (relative to whatever peak global emission rate may be reached) are required to approximately stabilize carbon dioxide concentrations for a century or so at any chosen target level (e.g., 450 ppmv, 550 ppmv, 650 ppmv, 750 ppmv, etc.). **Even greater reductions in emissions** would be required to maintain stabilized concentrations in the longer term."

Page 21: "A robust consequence of the stock and flow nature of atmospheric carbon and the physics of the carbon cycle is that emissions **reductions larger than about 80%** (relative to whatever peak emission level occurs) are required to approximately stabilize carbon dioxide concentrations for a century or so and **even greater reductions in emissions** would be required in the longer term; this applies for any chosen stabilization target....Observed climate responses in coming decades will be smaller than the longer-term temperature response to any given stabilization level. If carbon dioxide equivalent concentrations were to be stabilized at some point in the future, **there would be a lock-in to further warming of comparable magnitude** to that already occurring at the time of stabilization."

Page 61: "In sharp contrast, some greenhouse gases have biogeochemical properties that lead to **atmospheric retention times (lifetimes) of centuries or even millennia**. These gases can accumulate in the atmosphere whenever emissions exceed the slow rate of their loss, and concentrations would remain elevated (and influence climate) for time scales of many years **even in the complete absence of further emission**. Like the water in a bathtub, concentrations of carbon dioxide are building up because the anthropogenic source substantially exceeds the natural net sink. Even if human emissions were to be kept constant at current levels,

concentrations would still increase, just as the water in a bathtub does when the water comes in faster than it can flow out the drain....

“The warming induced by added carbon dioxide is expected to be nearly irreversible for at least 1,000 years (Matthews and Caldeira, 2008; Solomon et al., 2009)...”

Page 63: “...nevertheless both models show the need for emissions reductions of at least 80% for carbon dioxide stabilization even for a few decades, **while longer-term stabilization requires nearly 100% reduction .”**

Pages 63-65: “Figures 2.2 and 2.3 illustrate a fundamental change in understanding stabilization of climate change that has been prompted by the scientific literature of the past two years or so (see Jones et al., 2006; Matthews and Caldeira, 2008). **Early work on stabilization** using relatively simple models suggested that slow reductions in emissions could lead to eventual stabilization of climate (e.g., Wigley et al., 1996). **But recent studies using more detailed models** of key feedbacks in the ocean, biosphere, and cryosphere, have underscored that although a quasi-equilibrium may be reached for a limited time in some models for some scenarios, stabilizing radiative forcing **at a given concentration** does not lead to a stable climate in the long run.”

Page 102: “For rates of emission reduction of the order of 1-4% per year, and **even if CO2 emissions become close to zero, the decrease in atmospheric concentrations may, however, occur very slowly over centuries** (see Section 2.2).

“...a given level of cumulative emissions corresponds to a unique temperature change, which remains approximately constant for several centuries **after the point of zero emissions** (Matthews et al., 2008; Solomon et al., 2009).

“If carbon emissions were subsequently **eliminated** , atmospheric concentrations would slowly decrease over time, whereas temperature would remain elevated for several centuries. Similarly, should emissions continue at a low level (resulting in increasing cumulative carbon emissions), atmospheric concentrations may remain stable, but global mean temperature would continue to increase over time. Atmospheric CO2 stabilization is consistent with a small amount of continued CO2 emissions at a rate equal to the level of persistent natural carbon sinks, whereas atmospheric temperature stabilization **is only consistent with near-zero CO2 emissions** (Matthews and Caldeira, 2008; Solomon et al., 2009).

2) THE NEED FOR FOSSIL FUEL BACKUP.

Wind supporters often claim that building geographically extensive arrays of turbines will eliminate the need for backup. They argue that when wind fails in one sub-region, there will be wind in another sub-region to compensate. When you think this through, it is apparent that each individual sub-region would have to build wind resources capable of supplying *all* the other regions, because it would not be totally unlikely that only the one region would have any wind. This would be an extraordinary waste of money

From: *Electricity from Renewable Resources: Status, Prospects, and Impediments*, Page 12:

“A significant increase in renewable sources of power in the electricity system would also

require fast-responding backup generation and/or storage capacity, such as that provided by **natural gas combustion turbines**, hydropower, or storage technologies.”

From: *America's Energy Future: Technology and Transformation* Page 306-307:

“Further, co-siting of renewable-electricity generators (with other renewable electricity generation or conventional electricity generation technologies) or developing a geographically dispersed but interconnected resource base has the potential to smooth temporal variations of electricity generation associated with intermittent renewable resources and improve their integration into the electric system. A combination of intermittent sources **backed by natural gas** could make the combination of these sources dispatchable to the grid.”

From: *Wind Power in America's Future*, Page 78:

“However, wind generation penetration may affect the mix and dispatch of other generation on the system over time, **since non-wind generation is needed** to maintain system reliability when winds are low”

Today there is no practicable method for storing electrical energy. Some things are being tested, but the pace of global warming makes waiting risky.

3) THE CRITICAL ROLE OF NUCLEAR POWER.

From: *America's Energy Future: Technology and Transformation* Page 482-483:

“U.S. nuclear power plants were responsible for approximately 70 percent of the greenhouse-gas-free electricity production in the United States. ... before 2020, ... the existing plants are likely to continue to contribute significantly. However, after 2035, if significant new construction has taken place during the preceding 15 years, the greenhouse gas emissions reduction **could be substantial** .”

From: *Limiting the magnitude of future climate change*, Page 5:

“We thus conclude that there is an urgent need for U.S. action to reduce GHG emissions. In response to this need for action, we recommend the following core strategies to U.S. policy makers:

- Adopt a mechanism for setting an economy-wide carbon-pricing system.
- Complement the carbon price with a portfolio of policies to...
 - establish ... **new-generation nuclear technologies** .”

From: *Limiting the magnitude of future climate change*, Page 65:

Nuclear power is one of the key options for meeting large-scale electricity demand without producing GHGs. But the benefits of nuclear power must be weighed against a number of potential challenges. Strong public opposition to nuclear power...”

From: *Advancing the science of climate change*, Page 364:

“**Nuclear power is an established technology that could meet a significant portion of the world's energy needs.** France obtains roughly 78 percent of its electricity from

nuclear sources and Japan obtains 27 percent (EIA, 2007). About 20 percent of U.S. electricity comes from nuclear reactors, by far the largest source of GHG-free energy (EIA, 2009). The reliability of U.S. reactors has increased dramatically over the past several decades...”

The following quotation comes from *Limiting the magnitude of future climate change*, Page 86. The section is entitled “**The Case for Urgency**,” and the subsection, “*Feasibility of Decarbonizing the Energy System*”

“...we feel the [modeling] results are sufficiently robust to make the following observations:”

• *For the electricity sector, meeting the 167 Gt CO₂-eq budget [the budget that would result in a final 450 ppm CO₂ concentration] would be challenging—requiring that nearly all technologies available to increase efficiency and decarbonize the energy system be deployed at levels close to their full technical potential.... If it [carbon capture and storage] proved to be infeasible, the remaining potential for efficiency, renewables, and nuclear would not be enough to meet electricity needs in 2035. Indeed, if any one of the major categories fails to approach its technical potential, meeting the electricity need would be very difficult.*

We, the Maryland Conservation Council ask: 1) Why do anti-nuclear groups continue to vocally dismiss nuclear power when the National Academies list it as an essential technology in the fight? 2) Why do renewables advocates claim that wind power will need no backup with natural gas when the Academies repeatedly say that it is certain to, in the absence of energy storage technologies?

SOURCES

America's Climate Choices series from the National Academy of Sciences (2010):

- 1) *America's climate choices*
- 2) *Advancing the science of climate change*
- 3) *Limiting the magnitude of future climate change*
- 4) *Adapting to the impacts of climate change*
- 5) *Informing effective decisions and Actions related to climate change*

Climate Stabilization Targets from the National Academy of Sciences (2012)

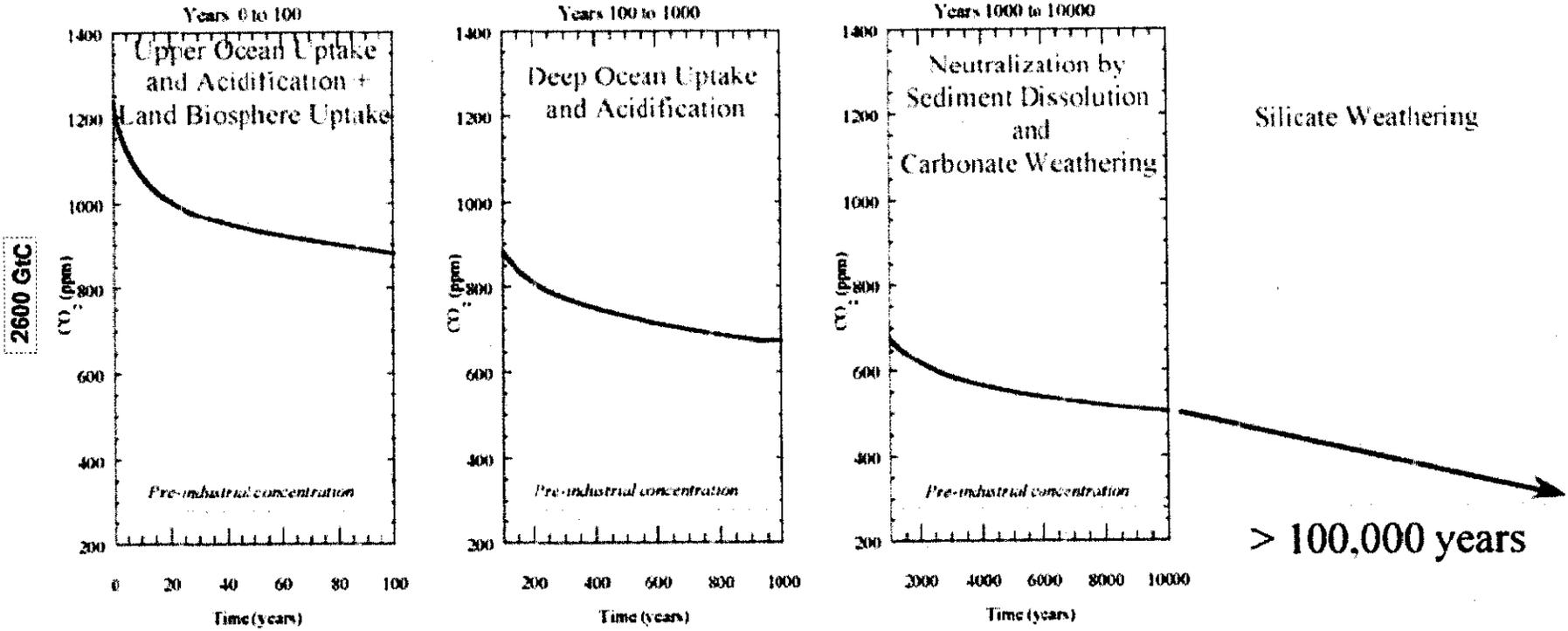
America's Energy Future series from the National Academy of Sciences and National Academy of Engineering (2009):

- 1) *America's Energy Future: Technology and Transformation*
- 2) *Real Prospects for Energy Efficiency in the United States*
- 3) *Electricity from Renewable Resources: Status, Prospects, and Impediments*
- 4) *Liquid Transportation Fuels from Coal and Biomass: Technological Status, Costs, and Environmental Impacts*

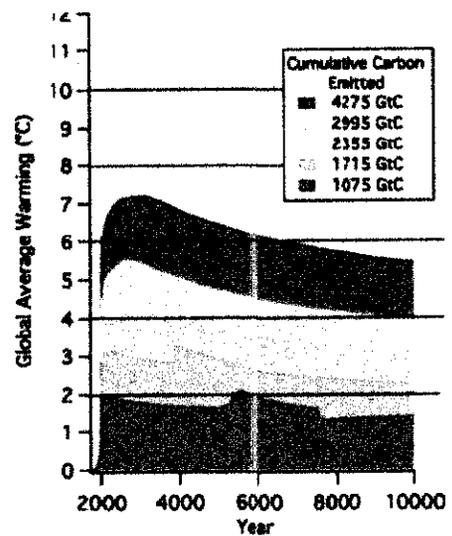
(All of the above are available as free pdf downloads from the National Academies Press web site.)

Wind Power in America's Future, 20% Wind Energy by 2030, US DOE, 2008, Dover publishing

The rate of removal of CO₂ from the atmosphere is very, very slow



Global average temperature falls even more slowly, making the changes essentially *irreversible*.



Sources: US National Academy of Sciences, "Climate Stabilization Targets," pp18 & 75; National Academies Press, 2011, Washington, D.C.

NRC Hearing

PSEG

October 1, 2014

Thank you for the opportunity to speak today. My name is Karen Meadow and I also represent the Maryland Conservation Council.

The following quotes are from a number of books on climate change published by the National Academy of Sciences. Written citations have been provided to you.

1. "Emissions reductions **larger than about 80 percent** are required to **approximately stabilize** carbon dioxide concentrations for a century or so at any chosen target level."

2. "**Even greater reductions in emissions** would be required to maintain stabilized concentrations in the longer term."

3. "The warming induced by added carbon dioxide is expected to be nearly **irreversible** for at least 1,000 years ."

4. "**...longer-term stabilization requires nearly 100% reduction .**"

5. "**...even if CO2 emissions become close to zero, the decrease in atmospheric concentrations may, however, occur very slowly over centuries**"

The following quotes from the NAS refer to the need for nuclear power to combat Global Warming.

1. "U.S. nuclear power plants were responsible for approximately 70 percent of the greenhouse-gas-free electricity production in the United States. ... The existing plants are likely to continue to contribute significantly. However, after 2035, if significant new construction has taken place during the preceding 15 years, the greenhouse gas emissions reduction **could be**

substantial .”

2. “We thus conclude that there is an urgent need for U.S. action to reduce GHG emissions. In response to this need for action, we recommend ...policies to, among other things,

• establish ... **new-generation nuclear technologies .”**

3. “**Nuclear power is one of the key options** for meeting large-scale electricity demand without producing GHGs.”

4. “**Nuclear power is an established technology that could meet a significant portion of the world’s energy needs.** France obtains roughly 78 percent of its electricity from nuclear sources. About 20 percent of U.S. electricity comes from nuclear reactors, by far the largest source of GHG-free energy (EIA, 2009). The reliability of U.S. reactors has increased dramatically over the past several decades...”

Let me conclude my remarks by pointing out that eminent climate Scientist James Hanson recently wrote that the world’s existing nuclear reactors have prevented 1.8 million premature deaths from respiratory diseases. Consequently, the Maryland Conservation Council concludes that significantly more respiratory diseases could have been prevented, and considerably less CO2 would be in the atmosphere today, if construction of new nuclear reactors had not been virtually stopped after 1980. In addition, the increasing CO2 concentrations in the atmosphere are causing elevated ocean acidification, which is drastically affecting the aquatic food chain, and will result in worldwide food shortages. Deleterious affects of acidification have already been documented in shellfish aquaculture in the Pacific Northwest. Therefore we feel building more nuclear reactors as quickly as possible is essential to the long term viability of human society and the biological world.

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INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS

LOCAL



UNION 94

JURISDICTION

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Testimony of Moe Hufsey
On behalf of Local 94 of the International Brotherhood of Electrical Workers

**In the Matter of the Draft Environmental Impact Statement
For an Early Site Permit at the PSEG Site (NUREG-2168**

**Before the U.S. Nuclear Regulatory Commission
October 1, 2014**

My name is Moe Hufsey. Thank you for giving me the opportunity to speak to you today.

I am the Nuclear Business Agent of IBEW Local 94, which represents 3,675 members who are employed by Public Service Enterprise Group in electric distribution and transmission, gas distribution and appliance service, electric generation and other work in support of those operations.

Most important for today, I represent nearly 800 members who work at PSEG's existing nuclear generating stations: Salem I and II and Hope Creek. Those three plants have provided safe, clean and reliable electric power to the people of New Jersey for 38 years.

PSEG Power and PSEG Nuclear have proposed to add a fourth nuclear plant on this site, one that could add another 2,200 MW of clean, safe and reliable baseload power to meet the increasing demand for electricity in New Jersey.

I'm here today to support that proposal.

The demand for electricity continues to increase – everything is plugged-in these days. And we live in a 24/7 world. For that we need baseload power.

The new nuclear plant could provide up to 28% of the projected increase in baseload demand.

And we need that power to be clean power. By law, New Jersey must reduce CO2 emissions to 1990 levels by 2020 and must meet a much tougher target of 80% reduction below 2006 levels by 2050.

New Jersey is on track to meet that 2020 target.

A big reason is because more than half of the electricity used by New Jersey customers is generated by nuclear plants, which produce no greenhouse gas emissions. They also produce no NOx, no SOx and no particulates.

As much as New Jersey – and PSEG – are committed to renewable energy and energy efficiency, I don't believe that there is any way we can meet the 2050 target without additional nuclear power.

Solar and other sources of renewable energy are great for New Jersey. Members of Local 94 build some of PSEG's solar power plants.

But solar is not a substitute for round-the-clock baseload power. And the only clean source of that is nuclear.

Finally, let me talk about jobs. I am a union leader after all.

A fourth nuclear power plant as proposed by PSEG could mean about 600 new full-time, good quality jobs running that plant. That's extremely important here in Salem County where the unemployment rate remains above the State average. And where neighboring Cumberland County has the worst unemployment rate in New Jersey.

Building that new nuclear plant would also bring more than 4,000 construction jobs to the site.

Statewide there are 20 IBEW locals representing 35,000 members. I know how important a project like that would be to my brothers and sisters in the construction locals.

I'll let the experts talk about the economy. I just know that the direct effect of thousands of operating and construction jobs is vitally important here in South Jersey.

For all those reasons – to meet growing electric demand, to help clear the air, and to provide good, high-quality jobs – I support PSEG's new safe, clean and reliable nuclear power plant.

Testimony before the Nuclear Regulatory Commission concerning
The D.E.I.S. on the proposed expansion of the P.S.E.G. facility

My name is Ajax Eastman and I am from Baltimore, Maryland. My background is in the area of conservation and protection of ecologically rich areas of the natural world, therefore I will mainly address some of the ecological aspects of the report.

I was formerly a staunch opponent of nuclear power, especially following the 3 Mile Island episode. But that position changed after I became an intervener in the proposed wind installations along the ridges of the Appalachian Mountains in Western Maryland. I learned the truth about the many downsides of industrial wind and at the same time, learned that my opposition to nuclear energy was based on my ignorance of it. Dr. Norman Meadow and William Biggley both helped to dispel that ignorance and I have since become a strong supporter of nuclear energy as the most environmentally sensitive solution to our energy needs.

Industrial wind and solar energy are being touted as "the best way to reduce green house gases" by our political leaders, most of the environmental organizations, and the general public. I don't believe that those supporters fully understand why their position is false. Aside from the fact that the capacity factor of wind generated electricity averages around 30% for land based turbines and 40% for offshore turbines, and that the expected life of the turbines is only (20?)30 years, the supporters are unaware of the many environmental downsides of industrial wind.

The N.R.C. staff has done a good job of comparing the enormous amount of land required for wind and solar installations compared to nuclear is staggering, especially when the reliability and amount of energy produced are factored in.

The D.E.I.S. uses a scientific paper that in my estimation down plays the avian and bat mortality caused by turbines by comparing the rates to millions killed by other human causes, but fails to mention that same N.R.C. paper states that there are other indirect impacts on birds and bats. Indeed a great deal of the bird mortality occurs in urban areas where there are thousands of communal birds such as house sparrows that are not even native, feral cats, tall buildings with a lot of glass, etc. But why would we add another threat, especially if that threat is not justified by an unreliable source of energy? I agree that measuring the number of birds killed in urban areas is far greater than the number of birds and bats killed by wind turbines; however the number of turbines since 2008 when the study was conducted has grown substantially and is projected to grow in the future, therefore it follows that the number of bird and bat fatalities has grown since then, and will continue to grow as well. I also question how accurate the bird and bat fatalities were when each turbine site is not monitored by humans on a daily basis. Scavenging predators could change the count before humans can be on site to make an accurate count.

Even more disturbing, according to renowned ornithologist, Chandler Robbins who has spent more than 50 years studying migrating birds in Western Maryland, those Appalachian ridges being targeted for industrial wind installations are the major flyway for migrating neo tropical birds. They congregate from

their summer breeding grounds in Canada and North America along those ridges as they head to their wintering grounds in Central and South America. These birds are already declining due to loss of both winter and summer breeding habitats. In fact, the forests and ridges of Western Maryland are mostly unfragmented and provide the habitat necessary for their successful breeding. Fragmented forests provide edges that are favored by nest predators such as the brown headed cowbirds. Industrial wind sites necessitate the fragmentation of the small song birds nesting territories, adding to the diminishing of their species.

By the way, I object to appellation of industrial wind plants as "wind farms." When they are referred to as wind farms, the misconception is of benign bucolic scenes of farms of yesteryear with a small many bladed wind mill standing nearby. The D.E.I.S. should refer to them as "industrial wind plants."

PV Solar power located on rooftops is a good source of renewable energy because the energy produced does not need to be transported over transmission lines but can be directly applied below, and requires no additional land. Industrial size solar arrays on the other hand require both a great deal of land and the need for the energy produced to be transported over greater distances. One of the enormous arrays of mirrors in the desert south west has proven to be a huge killer of birds and flying insects that are attracted to the area then are drawn in to their fiery death. The panels and mirrors are also in constant need to be washed to be effective which poses a problem in the arid desert.

These and many other problems of unreliability, non firm production of electricity, enormous amount of land or sea area required, greater costs, short life spans, in comparison with nuclear energy are why I am committed to favoring nuclear energy. I therefore heartily endorse the conclusions in support of the NRC's D.E.I.S. for the proposed PSEG new facilities. Thank you.

Ajax Eastman

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POSITION STATEMENT OF DR. JOANNA BURGER
Early Site Permit Application — ~~Salem Nuclear Plant~~ for the PSEG Site
Docket No. 52-043; NRC-2014-0149

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My Professional Background: I am Professor of Biology at Rutgers, where I have taught biology for over 35 years, and conducted research in New Jersey and elsewhere. I am an ecologist with a PhD from the University of Minnesota, and an Ms from Cornell University. I am also a member of the Environmental and Occupational Health Science Institute, and on the faculty of UMDNJ School of Public Health. I am a Fellow of the American Ornithologist's Union, The International Ornithological Union, AAAS, and the International Union of Pure and Applied Chemistry. My research interests are in coastal and Pine Barrens ecosystems, specializing on vertebrate ecology, eco-toxicology, and the mitigation of human activities on ecosystems and the species within them. I have written or edited over 20 books, and 500 research articles in refereed journals, and am on the Editorial Boards for several journals (*Environmental Research*, *Environmental Monitoring and Assessment*, *Environmental Indicators*, *Journal of Toxicology and Environmental Health*, and *Renewable Energy*). For 15 years I have worked with the Department of Energy examining ecological effects at their former nuclear weapons plants (Hanford, SRS, Oak Ridge, and others). I have served on several National Academy of Sciences committees and Boards (Board on Biology, Board of Environmental Science and Toxicology), for EPA, and for the Nuclear Regulatory Commission. I was awarded the Brewster Medal from the American Ornithologist's Union, and the Distinguished Service Award from the Society of Risk Assessment, as well as the Conservation Award from the Conservation Foundation of New Jersey. I have sat on the Endangered and Nongame Species Council for the State of New Jersey since the late 1970s. I have also worked extensively with stakeholders, and am currently editing a book on Science and Stakeholders (for Springer, ~~expected data~~ ^{Spring} 2011).

My statement is based on extensive experience with environmental assessment, nuclear facilities, wind power facilities, stakeholder involvement, and extensive knowledge and experience with PSE&Gs environmental and restoration programs, as well as their Environmental Report.⁵

Abstract of My Position. I have had the opportunity to observe PSE&Gs environmental policies and actions over twenty years, and their restoration and mitigation activities in support of the environment. I know of no company that has such a stellar environmental record, well beyond what has been required of them. Their environmental restoration

activities are a model for other states and companies. I have read their Environmental Report, and given what I know about their past performance in habitat enhancement, I am confident that PSE&G will carry out their plans, and create much more habitat than is compromised by the new development. Further, the land that will be used for siting the new facility, is not currently natural high quality salt marsh or other habitat, but is already degraded. ~~By~~ in contrast, I have full confidence that the mitigation habitat will be a functioning, high quality habitat. I encourage the NRC to approve the Early Site Permit, and lend my support to PSE&G for its community-minded, and ecosystem-conscious approach to restoration and mitigation.

Statement. PSE&G has applied for an early site permit to construct a nuclear facility at the current Hope Creek NJ (Salem) Nuclear Plant. The new facility would be placed on its current property. The PSE&G Environmental Report addresses footprint issues, and the mitigations that will be performed in support of improving other lands. Much of the land that will be used for site construction of the new nuclear facility is degraded *Phragmites* wetlands, and as such, is not natural productive habitat.

Their mitigation efforts include identification of several candidate areas that may be selected for the development of a wetland mitigation plan for the restoration and enhancement in Elsinboro, and work with Mannington Marsh. Both of these habitats will be greatly improved by PSE&G's mitigation work, and the restored habitat will provide much higher quality habitat than is even possible with the planned construction site. The natural tidal flow in the planned restoration/mitigation habitat will lead to habitat with far greater wildlife use and ecosystem integrity. This part of the Delaware Bay ecosystem will be greatly aided by the restoration planned by PSE&G.

The Environmental Plan they present is sound, well-thought out, and sufficiently developed to ensure that it can be accomplished. The Environmental Report is extensive, comprehensive, and devotes considerable attention not only to the environmental, physical, and ecosystem issues, but to appropriate public involvement and monitoring. As an ecologist I have been impressed with their due diligence in addressing all the outstanding environmental issues, and going well beyond what is necessary in terms of mitigation and restoration of additional habitat. The State of New Jersey will be gaining considerable high quality habitat by these actions, in exchange for degraded, low quality *Phragmites* marsh that is on the current site (and that will be the site of the new nuclear facility).

The plans proposed by PSE&G can be viewed in light of their past mitigation and restoration activities. They have one of the largest and most successful mitigation projects in the country, where they controlled *Phragmites* to produce high quality salt marsh with attendant mudflats and intertidal habitat that is used by thousands of shorebirds and other species. Thus their Estuary Enhancement Program is one of the most successful in the country, has received a variety of state and national awards – and unlike many other such programs, it is sustainable.

Thus, it is my professional opinion that they are capable of, and will, deliver on their environmental mitigation and restoration plans. The company has integrity and environmental vision to ensure that there is little environmental impact, and that their restoration and mitigation plans will result in far more, high-quality habitat than is presently on site.

PSE&G Draft Environmental Impact Statement public meeting
October 1, 2014

My name is Jim Applegate. I am retired from the Department of Ecology, Evolution and Natural Resources at Rutgers University in New Brunswick where I was Professor of Natural Resources. My advanced degrees are in Zoology from Penn State University.

I was a member of the Rutgers Faculty for 32 years. Two of my activities at Rutgers are relevant to today's meeting.

First, I initiated and administered a course for all incoming students at Cook College. That course spanned the last 18 years of my career at Rutgers and it enrolled approximately 600 to 700 students each year. The course was delivered by faculty from throughout the college in discussion sections of no more than 24 students. We had several objectives in that course. One was to expose the students to the kinds of real world problems that are addressed by the programs of a Land Grant University. Another was to show the students by example how one develops informed positions based on critical reading, analysis of data, reasoned discussion and thoughtful reflection. The topics we chose changed frequently. Course materials for a topic were selected by a steering committee of our faculty instructors. It was rare that a faculty section instructor was an expert in the subjects being addressed.

Not surprisingly, one of the issues we included regularly was global warming. Through critical analysis of available publications and data, the collective conclusion of this diverse group of faculty and students was that world climate was warming at a rate unprecedented in the geological record, and that the most likely cause was the atmospheric accumulations of the gas products of burning fossil fuels. Because Cook College programs address practical solutions to problems, we would explore the "what can we do?" after considering "what's the problem?." In the case of global warming our solutions fell into 3 categories:

First: Reduce our demand for energy. More efficient fuel consumption in the transportation sector and better construction design – both in new construction and in retrofitting existing living and working spaces – were top candidates. We recognized, however, that the economics of inexpensive fossil fuels made voluntary action unlikely without government incentives.

Second: Bringing more renewable energy sources on line. Here we liked solar energy, wind energy and biofuels. At the time we were discussing these ideas we had only limited experience with these technologies. Experience over the past decades tells us that each of these "solutions" comes with a cost. We cover fragile desert habitats with solar panels while ignoring the warehouse rooftops and other existing opportunities that have much less impact. Wind energy leaves a construction and service footprint at the expense of wildlife habitats and operation has serious impacts in mortality of migrating birds and foraging bats. Land growing

biofuels has very limited wildlife habitat value. Barry Commoner was right – “There is no such thing as a free lunch.”

Our third option was a re-examination of nuclear power generation – a technology not considered a part of the package while we taught the course, but evidently back on the table as evidenced by the current PSE&G exercise. We recognized the value of generating usable energy without increasing greenhouse gases. We worried about safety issues and even more about the lack of a long-term safe repository for nuclear wastes. We were not experts. The concerns are real.

The second dimension of my Rutgers experience that relates to this meeting is my teaching of Field Ecology, a course in which we travel the state, learning about natural history and how people use land. It’s a blend of geology, soils, botany, zoology, economics and history, helping the students learn how existing landscapes are the result of the complexity of all these interacting elements.

During the re-permitting of the existing nuclear facilities at Salem, PSE&G developed a bay-wide concept of mitigating the impacts of the existing cooling apparatus at the facilities. They were creative in identifying a variety of ways that the bay-wide resource value could be improved through investment in projects throughout the Delaware Bay estuary. I was impressed by the scope of their thinking and the resources they could bring to the table. I testified in favor of this mitigation idea at the re-permitting hearings.

Since then I have followed, with my students and with great interest, what has become the largest privately financed Estuarine Enhancement project in the nation. Without going into details, the project has been a resounding success at many levels in increasing the resource value of large acreages throughout the Bay. PSE&G has a solid track record in delivering on their commitment to baywide health.

Returning to the purpose of this meeting. Should this project move ahead toward construction, there will be on-site habitat impacts that will be unavoidable. I urge the process to embrace the same baywide approach used in the Estuarine Enhancement program, and to be creative and aggressive in identifying off site mitigation opportunities. Hold PSE&G’s feet to the fire. History suggests they will deliver.

Thank you