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

Evening 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

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Wednesday,

October 1st, 2014

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Evening Session

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Carneys Point, New Jersey

The Public Meeting was held at 7:00 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

A-G-E-N-D-A

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

7:00 p.m.

FACILITATOR CAMERON: My name is Chip Cameron and I would like to welcome you, to the public meeting, tonight.

And it is a pleasure to serve as your facilitator for the meeting tonight and also I will try to help all of you to have a productive meeting tonight.

The topic, of tonight's meeting, is the U.S. Nuclear Regulatory Commission's Draft Environmental Impact Statement on an Early Site Permit application that they received from PSEG to decide if a potential new reactor at a site adjacent to the Hope Creek and Salem Nuclear Generating Stations.

And the EIS that the NRC has prepared is just one part, an important part, of the NRC's decisionmaking and review process, on whether to grant the Early Site Permit.

At this point I would like to talk, a few minutes, on the meeting process so that you will know what to expect tonight.

And I would like to talk about the objectives of the meeting, the format of the meeting, some simple ground rules to allow us to have a

productive meeting tonight, and to introduce the speakers to you.

And I should mention, when I'm talking about the speakers, is that the United States Army Corps of Engineers also plays an important part in this Early Site Permit review process.

The Corps is a cooperating agency on the preparation of the Environmental Impact Statement. And we will have a speaker from the Corps, to talk to you, in a few minutes.

In terms of the objectives, the first one is to make sure that the NRC clearly explains what the Environmental Impact Statement process is, and gives you a good summary of some of the conclusions in the Draft Impact Statement.

And I would really emphasize the word draft. This Environmental Impact Statement will not be finalized until the NRC looks at all the public comments that come in, either tonight in this meeting, or written comments.

And you can speak tonight, you can submit written comments also, and anything that you say tonight is going to carry the same weight as a written comment.

And that is the second objective of the

meeting, it is for the NRC and the Corps of Engineers to listen to your comments, or any concerns that you might have, about the Draft Environmental Impact Statement.

In terms of format we are going to have three short presentations, by the NRC, and the Army Corps of Engineers.

And after that we will have a few minutes, at least, to take any clarifying questions that you might have about the process, or whatever.

So we will see if there are any questions on that. And then we are going to move into the focus of tonight's meeting, which are the comments, and if you want to talk, many people have already done this, filled out a yellow card, or they pre-registered.

And I will call your name and I will ask you to come up to the podium, and talk to us tonight.

Now, during that comment period the NRC and the Corps of Engineers are going to be listening carefully to what you are saying. But they are not going to be responding to anything that you say.

Or sometimes people will get up and ask a bunch of questions, rather than giving an opinion. We won't be answering those questions during the meeting.

The staff may come up to you, after the

meeting, the NRC or the Corps of Engineers, and ask to talk to you more about concerns that you have.

But all of those comments, and all of those questions, will be carefully evaluated, as the staff prepares the Final Environmental Impact Statement.

In terms of ground rules I would, just, ask you to hold on to the questions that you have, until after all the presentations are finished, so you can get a complete picture.

And, secondly, I would ask that only one person, at a time speak. Sometimes we have meetings that are not, like a typical meeting here, where people are shouting things out, or whatever.

But one person at a time allows us to give our complete attention to whomever is talking. And also allows us to get what I call a clean transcript.

We are taking a transcript. Our stenographer, tonight, is Ed Johns right here. And that transcript will be publicly available.

And it is your record of the meeting, and it is the NRC's record of the meeting. And I would ask you to be brief in your comments.

I don't think we are going to be pressed for time, at all, tonight. But if you could keep it

in the five minute range, that would be helpful.

And, finally, let's all extend the courtesy to everybody in the room. You may hear opinions that are different from yours. And let's just respect the person who is giving that particular opinion.

And our speakers, first of all, we are going to hear from Jennifer Dixon-Herrity, who is right here. And Jennifer is the chief of the environmental projects branch in the NRC's office of new reactors. And she will start us off.

And then we are going to go to Ed Bonner, who is right here. And Ed is a senior biologist in the regulatory section of the Corps of Engineers Philadelphia District Office.

And then, finally, we are going to go to Allen Fetter. And Allen Fetter is the environmental project manager on this specific Early Site Permit. And he will fill you in on the details of what the results of the Draft Environmental Impact Statement have been so far.

We also have a number of NRC staff from the Office of General Counsel Public Affairs. We have our expert consultants in various scientific disciplines, here, tonight.

And, hopefully, you have had a chance to meet some of them. And they will be here, at the meeting.

In terms of the operating reactor, I want to introduce you to the resident inspector. This is Shelyn Ibarrola. And she is the resident inspector at the Hope Creek Plant.

And the NRC's resident inspectors are there to make sure that all the NRC regulations will be complied with, right at the site.

And, with that, I would just thank all of you for being here. And let's turn it over to Jennifer.

MS. DIXON-HERRITY: I, also, want to thank you for coming this evening. The whole team welcomes your comments.

We are looking at improving our Environmental Impact Statement. I'm going to repeat some of what Chip has already said.

Going through the agenda for the meeting, we are going to start off with some descriptions of how the U.S. Nuclear Regulatory Commission review process, leading up to today, worked.

We are going to provide a schedule from today forward. We are going to share the NRC's

preliminary recommendations with you. We are going to describe how you can provide comments, both today and going forward, until our comment period ends.

And, most important, we are going to listen to and gather your comments.

Going back over what our role is, the Nuclear Regulatory Commission is the lead agency in the preparation of this Environmental Impact Statement, under the National Environmental Policy Act.

The U.S. Army Corps of Engineers is a cooperating agency in the preparation of the same Environmental Impact Statement.

The Corps of Engineers's evaluation and decision whether to issue the Department of the Army permit, will be documented in a separate Record of Decision, from the one that the Nuclear Regulatory Commission issues, no earlier than 30 days after issuance of the Final Environmental Impact Statement.

And the ROD will reference information, in the Final Environmental Impact Statement, and present any additional information that they need to share in support of their permit decision.

And, with that, Ed Bonner is going to talk.

MR. BONNER: My presentation will be very short, I hope.

As mentioned, we are a cooperating agency. There are two federal actions involved with this project. One, obviously, the ESP application for NRC approval.

But there is, also, a Department of the Army permit application pending, relative to all the dredge and fill activities that would be required for this project, in waters of the U.S.

When, as both federal agencies, we are both required to follow NEPA, the National Environmental Policy Act. And basically it is a process issue, to make sure we identify what resources are there, what the effects on those resources are.

And the value of being cooperating agencies, we jointly can share our resources, to make sure that we have done a thorough job, of what those resources are.

And this public meeting is a part of that, because we have developed a Draft EIS. There is a public opportunity to comment on that.

If there is something wrong, we want to know what you think. And this is very important to our process.

But our laws are different. The first law, that we are responsible for implementing, is Section 10 of the Rivers and Harbor Act, dating back to 1899.

That law regulates activities in, or affecting, navigable waters. Whether it would be something under, in, or over.

The other law, that we implement, is Section 404 of the Clean Water Act, where we regulate the discharges of dredged, or fill material, into waters of the U.S. which includes wetlands.

And the documentation will show there is a sizable amount of wetland impact.

But in this process we jointly work through the EIS development. Once we conclude the EIS, and it is finalized, the agencies will work, independently, on our independent permit decisions.

The Corps will then apply what are known as the 404(b)(1) guidelines. These are guidelines developed by the EPA for the Corps to utilize when evaluating permit applications.

The other factors, we have to consider, what is known as the public interest factors, which is a broad range of public issues, navigation, cultural issues, environmental issues.

It is an almost endless issue, anything affecting the public. In order for us to issue a permit it must pass the test of the guidelines, and the public interest review process.

And that will follow through, when we make our final decision, following the development of the Final EIS.

What else? Public participation. During this entire process we have been coordinating with other federal and state agencies.

So in most respects we know what their comments are, or we will continue that process. Your job, as the public, is to participate in that process.

We solicit, we welcome your comments, to assure that we have done an adequate job of identifying what those issues are.

It then becomes our job, in the end, to render a decision on that.

There is a permit follow-up there. Our action CENAP-OP-R-2009-0157, that is the actual file number in our office.

When you offer comments, on both the EIS and our permit application, when you offer comments to us, make sure you reference that number.

It makes it a whole lot easier to track

the correspondence because, I can assure you, there is a large volume of mail coming to our organization.

So that makes it easier for us to track it.

Brian Bellacima, who is also here, is the primary project manager for this. His phone number is up there and, I believe, it is also in your handouts.

If you have a question for me feel free to call Bryan. His email is up there. But we welcome your comments.

We ask that, when you have a comment, or question, that you be as specific as possible. In order for us to evaluate the comments the more specific you can be, the more likely you are, to get an adequate response from us.

Our public notice has a deadline of comments on October 4th, slightly different comment period than the EIS.

Noting that October 4th is only a few days from now I would say, to you, that if you give us a comment October 5th, we are not going to close the doors.

But the issue being is we have to make sure that we put the packages together, review the comments, and the sooner your comments are offered,

the more likely you are to have those comments addressed, and included in the file record.

Other than that I am done. And after the meeting I will be available for general questions. Thank you.

MR. FETTER: Good evening, thank you all for coming.

This slide shows that the Nuclear Regulatory Commission, we are an independent federal agency. We protect the public health and safety, promote common defense and security, and protect the environment.

We are an independent federal agency and we have, over -- not over, yet, but almost 40 years of experience, regulating operating reactors, and other civilian uses of nuclear materials.

Now, an Early Site Permit is Commission approval of a site for one or more nuclear power facilities. And before an Early Site Permit is issued, a Commission mandatory hearing occurs.

The issuance, I want to emphasize, that the issuance of an Early Site Permit does not authorize the building of a new nuclear plant.

Before any plant is built, and are operated, an ESP holder must submit a combined license

or construction permit application, and get that reviewed as well.

There are two reviews I want to -- an environmental and safety review. The safety project manager, Presenta Chally is here, in the audience, as well. If you have any questions about the safety review, he will available, after the meeting, to talk to as well.

For the site evaluation we used a set of bounding reactor designed parameters, because the applicant hasn't chosen a reactor technology.

But we have incorporated different aspects of that to evaluate the environmental impacts of such a surrogate reactor on the site.

This slide is an overview of the NRC's Environmental Review Process. This step-wise approach is how we meet our responsibilities under the National Environmental Policy Act.

We are, currently, in the comment period stage for the DEIS. And previously, the NRC and the Corps, were seeking your input on the Draft EIS during the scoping period.

The results of which are summarized in appendix D of the Draft EIS.

To assist in our review, the NRC and the

Corps are currently seeking comments on the Draft Environmental Impact Statement, which we will address, and will be incorporated in an appendix, in the Final Impact Statement.

The 75 day comment period began on the 22nd of August and will remain open until November 6th. As Ed said, you know, we will make accommodations for things that come in late.

We won't close the door, but in order to be considered, it is better to get it in by the 6th.

Based on the comments, we will receive, we will adjust our analysis, as needed, and finalize the Environmental Impact Statement.

We expect to issue the Final in September of 2015.

To prepare the EIS we assembled a team with backgrounds in the necessary scientific and technical disciplines.

The NRC has contracted with Oakridge National Laboratory to assist us preparing the EIS. The NRC, which includes Oakridge, and the other DOE contractors, is comprised of a wide range of experts, knowledgeable with environmental issues and nuclear power plants.

As mentioned, before, the Corps also

provided technical expertise in developing the EIS.

This slide shows many of the resource areas that were considered in the development of the EIS. The NRC would like to provide you with the time to present comments this afternoon, specifically about any resource areas here.

Therefore I will be, and this shows only some of the resource areas. And if you have read the EIS, and have specific comments, we welcome them.

So this slide depicts how the environmental impacts are categorized. The NRC has established three impact categories, small, moderate and large, to help explain the impacts on the project consistent with the terms in each resource area.

As the team was developing the analysis, the team members would ask if the effect was minor, which would have a small effect.

Does the effect have a noticeable, can it noticeably alter the impacts, attributes of a resource? Then it would be moderate.

Or if it was destabilizing to certain attributes of the resource, it would be considered large.

So through the EIS we use these categories to define the level of impact.

So we are going to go into a little detail about some of the resources in the technical areas. Here is the water resources.

Our evaluation considered both groundwater and surface water, both use and quality. Groundwater will be used during the building of a new nuclear plant. The fresh water would be used for mixing concrete, soil compaction, and other construction uses.

Later operation of the plant, groundwater would be used for drinking, sanitation, fire protection, and cooling of smaller plant components.

The primary source of water, for operations, is surface water, which would be used to cool the nuclear plant. The source of the surface water is the Delaware River.

PSEG will be required to comply with all stated and federal permits for groundwater withdrawals, and discharges, into the Delaware river.

The review team determined that the impacts, for the use, and quality of groundwater and surface water, from building and operation of the new nuclear plant, at the site, would be small.

Now, regarding other potential impacts to waters of the U.S., there will be a dredging and fill

operations, that would occur at PSEG site.

The nuclear plant barge slip, and associated infrastructure would involve, potentially, 108 acres of fill impact to wetlands, 32 of them, temporary, as well as dredging.

The causeway, 23 acres permanent, 23 temporary. And the adjacent offsite area would be zero permanent and 30 temporary.

And other structures, in navigable waters, would include the cooling water intake structure, and associated dredging, and the discharge structure as well.

Next is ecological resources. Our team evaluated the terrestrial impacts, on local wildlife that either lived on the PSEG site, in the surrounding area, or in nearby water bodies.

The evaluation covered many species. Examples shown here are the shortnose sturgeon, and the black-crowned night heron.

The staff, along with the Corps, is consulting with other agencies, such as the New Jersey Department of Environmental Protection, U.S. Fish and Wildlife Service, and National Marine Fisheries, on the impacts on the ecological resources.

As part of the NRC staff's analysis, we

evaluated potential doses to workers, during construction. Doses to members of the public, and plant workers, during operation, and doses received by wildlife.

The impacts, on all three groups, doses to members of the public, plant workers, and wildlife, would be small, since PSEG must continue to comply with stringent NRC and EPA regulatory limits.

Socioeconomics and environmental justice is another resource area that we look at. The socioeconomic review encompasses many different things, such as local economy, taxes, housing, education, traffic, transportation, populations, infrastructure, and community services.

Adverse impacts would be small to moderate for building and operation. And for environmental justice the NRC staff found no evidence that minority, or low income, populations would be disproportionately affected during building and operation of a nuclear plant.

An important part of the Environmental Review, under the National Environmental Policy Act, is evaluation of cumulative impacts. In Chapter Seven the team evaluated cumulative impacts.

Overall the cumulative adverse impacts

range from small to moderate, with the exception of generally beneficial impacts from taxes, which range from small, to adverse, to large beneficial.

There are three examples of other projects, in the vicinity, that would be considered under cumulative impacts, the current operating stations, Camp Pedricktown, and the Delaware River Main channel deepening project.

As part of our review our team needs to make a determination of whether or not there is an additional need for power, from the licensee.

For the PSEG site the area evaluated was PSEG's market area. The review team's need for power analysis is in Chapter Eight of the EIS.

Alternatives is a very important part of the NEPA process. In Chapter Nine the staff evaluated alternative energy sources, alternative sites, and alternative system designs, as well as the no-action alternative.

In our energy analysis the review team evaluated generation of baseload power, which is continuously produced, 24-7.

For baseload we examined sources such as coal, or natural gas, and combinations of sources of natural gas, solar, wind, biomass, and additional

conservation, and demand side management programs.

The review team determined that none of the feasible baseload energies would be environmentally preferable.

Conservation and the design side management were also considered but not determined to be an alternative to baseload.

The review team compared the proposed PSEG site to four other alternative sites in New Jersey. The NRC staff determined that none of the alternative sites would be environmentally preferable to the PSEG site.

And, lastly, the review team determined that no alternative cooling system designs would be environmentally preferable to the proposed designs.

In Chapter 10 of the EIS the NRC staff makes a preliminary recommendation to the Commission. This recommendation is based on, mostly, small impacts, mitigation measures, and the NRC staff's conclusion that no alternative site, or alternative baseload energy would be environmentally preferable.

Based on the results of our Environmental Review, the preliminary recommendation, to the NRC Commission, is the Early Site Permit for the PSEG site be issued.

The recommendation is considered preliminary until we evaluate your comments in the DEIS.

This recommendation is for the Environmental Review. As I mentioned, previously, the safety also has a concurrent review. The safety review is ongoing, and will be completed with the issuance of the Final Safety Evaluation Report, which will present the results of the staff's Final Review.

For access to the Draft EIS, we have copies out in the front, of the Reader's Guide, which contains a CD of all three volumes.

There are, also, -- it is available on-line, at the web address shown in this slide. And this slide will stay up, during the comment period, for those who want to write it down.

It is, also, in the information packet passed out. And there is a hard copy at the Salem Free Public Library.

And if anyone specifically wants a hard copy, you can contact me, and I will make a copy and send it to you.

So as Chip and Jennifer mentioned, and Ed as well, submitting your comments on the Draft EIS include public, verbal comments at the public meeting

tonight. If you are a little bit shy, and don't want to speak in public, you can provide written comments directly, electronically, using the web address at the top, psegsite.espeis@nrc.gov, or through regulations.gov. Use the docket number that is up there.

Or you can send them, by regular mail, to Ms. Cindy Bladey, at the Office of Administration, at NRC.

And, once again, comments are due by November 6th, 2014. And if you have any questions, about submitting comments, you can call me, anytime, during work hours.

And, with that, I hand it back over to Chip, and people will start to give comments.

FACILITATOR CAMERON: Okay, thank you for your presentations. And before we go on to people for comment, is there any clarifying questions, that anybody has, that we can answer for you?

Yes? If you would just please introduce yourself?

MR. BROOK: You probably don't need that, I speak loud enough --

FACILITATOR CAMERON: Well, we need it for the transcript. And since we are taking a transcript,

we need to have it on the transcript. That is why you need to use the microphone.

MR. BROOK: My name is David Brook, Delaware River Keeper member. My question is to the Corps. Is there any chance, on part of the Corps, to extend the comment period longer than it currently is?

And I guess the second part of the question is, why is it ending so early? Because presumably you cannot make a decision until we are further along in the process, and we would like to provide comments, and get some extra time on it.

FACILITATOR CAMERON: Thank you, David. Let's head down to Ed and let me hand you the microphone, and then you can respond to David. Here you go.

MR. BONNER: With regard to the comment period, that comment period is dictated by my regulation. Each team has implemented regulations that they are required to follow.

So that is what dictates the varying comment periods.

Secondly, with regard to your request for an extension, I can't grant you that. If you want to request you have the ability to request an extension.

But if you request an extension you need

to offer a substantial reason for the extension.

FACILITATOR CAMERON: Okay, thank you. As far as the extension is being requested, I should ask you, how should that extension be requested, be submitted to the website, or --

MR. BONNER: You are with the Riverkeeper, you have our address. You would submit that to the district engineer, in writing. So prior to the expiration of the comment period.

FACILITATOR CAMERON: Okay, thank you very much. Anybody else?

(No response.)

FACILITATOR CAMERON: Okay, let's go to the comments. Well, first of all we will hear from Mayor Timothy Bradway, and then we will go to David Brook, from Riverkeeper, and then to Jean Baillie.

And this is Mayor Bradway.

MAYOR BRADWAY: Good evening, my name is Timothy Bradway. I'm, currently, the Mayor of the Lower Alloway's Creek Township, also known as LAC.

I have been a resident of LAC for my entire life, as well as at least three other generations before me.

So keeping LAC, the way that we know it, and love it, is our goal for generations to come.

Lower Alloway's Creek also happens to be the home of the PSEG Nuclear Power Plant. You cannot explain where LAC is located, without mentioning the PSEG power plant.

I find it funny, when I'm trying to tell people where I live, and all I have to tell them is PSEG, and they know right away where I live at. And, in fact, most of them have worked there.

My days, growing up, and now days knowing all that I know, about PSEG, I have never felt unsafe, or uncertain, about any actions going on at PSEG.

I think it helps having so many family, friends and neighbors, working at PSEG. It is easy to put your confidence in someone you know.

PSEG and the Lower Alloway's Creek Township, have a great relationship, and we strive to keep it this way.

We are always kept, well-informed, by PSEG employees, at our monthly township meetings, in the emergency management room, and numerous phone calls, in between times.

During these meetings, and phone calls, there was at no time that I have ever felt that PSEG was not being transparent, with me, or the township.

PSEG does a very good job explaining

everything, to the committee members, and myself and in a respectful way.

In my opinion PSEG has done so much for our town. Just to name a few things, the countless number of residents that are currently, and past, employees of PSEG.

The community outreach, training, and awareness, is above and beyond all the rest. Not only the jobs at PSEG, but the jobs our township currently has, we can thank PSEG for playing a part in creating.

For example, our police department, our municipal fire department, and several other small businesses, as well. I definitely feel PSEG has made a positive impact on our town.

On the matter of expanding I'm definitely in favor. It would be great for our town, and it would be great for our town, from the pizza guy on the corner, to the service station down the road, even to the resident who has a spare room to rent, to supplement some income, during these times.

So the way I see things, it is pretty clear, everyone will benefit from more jobs, from my township, to our county, and to our state. Thank you.

FACILITATOR CAMERON: Thank you, Mayor. And David, could you come down here and use this

microphone? Thank you, David. David has decided to defer, for a moment, so that we can go to Joan Baillie.

MS. BAILLIE: Good evening, and welcome everyone, to Salem Community College.

My name is Joan Baillie, I'm the President of the college. I have been the president, here, for the last three years. But I have been associating, with a college, for over 20.

Since 2008 the college has partnered with PSEG Nuclear to create the Nuclear Energy Technology Program, which helps to prepare the next generation of nuclear technicians.

PSEG has been a great active, and engaged, partner. They provide classroom space, they provide equipment, instructors, and scholarships for the students in the nuclear energy technology associates degree program.

More than 90 students have graduated, from our program, and 73 percent of those students were able to achieve a certificate, from the Institute of Nuclear Power Operations, which allows students to seek employment in any nuclear facility in the United States.

The NET program's success is a prime

example of a business-education partnership at its best. Nationally, and locally, the role of community colleges, in workforce development, is critical to the economic development of those areas.

In addition to specific program sponsorship, PSEG also provides general scholarship money, by contributing to all of our fundraising activities. So we really appreciate that.

But speaking personally it has been my experience, working with PSEG, but also as a private citizen, I have lived in Pennsville Township for 30 years.

My husband was born and raised there, so he has lived there 60 years. We live ten miles, within 10 miles of the plant, and we have never had a concern about safety.

Probably that is because, like the person who spoke before me, we know many people. Many of them are my neighbors, that work, continue to work at PSEG.

These people are involved in our community. I serve on many communities with representatives of this company, as well as some of their high level executives.

I visited the plant, I have no concerns. And I look forward to the opportunity of expansion,

and the jobs that it will provide this community.

PSEG, as a company, and its employees are community assets. And they are vital to the economic development of this county. Thank you.

FACILITATOR CAMERON: Thank you, very much. Now we will go to Mr. Brook, David Brook.

MR. BROOK: My name is David Brook, I'm the senior attorney at the Delaware Riverkeeper Network. You will probably recognize that we are an environmental advocacy group.

Maya Van Rossum, the executive director, spoke earlier this afternoon. And I have a few additional comments that I'm going to make.

The proposal, this proposal is complex. And, unfortunately, so complex that it is often left to the experts, like yourselves, and consultants, to tell us what we should do.

To build, or not to build? That is the question. We suggest that leaving this question to the experts, and their high-priced paid consultants, is the biggest mistake we could all make.

Here is why. In the end, if I asked 10 of you, what is the most important thing in your lives, if I asked you, what is the most important thing in your lives? Nine out of 10, or probably 10 out of 10

of you, are going to say one thing, my children, or maybe my grandchildren.

So, if each of us leaves behind the company, PSEG, and its biased one-sided analysis, and all of you at the NRC, with your seemingly potentially mono-minded approach of I never saw a nuclear power plant that I didn't like, we are left with one conclusion.

One conclusion. In this day and age, building another nuclear power plant is the stupidest decision anyone could ever make, since all we are doing is hurting the chance that our children, and our grandchildren, will ever have the opportunity for a sustainable and livable future, on this planet.

And I will explain. Why do I say this? The light in here is terrible. Why do I say this? All of us are destroying this planet by our fixation with consuming non-renewable resources, and nuclear energy is also a non-renewable resource.

In fact, nuclear energy is a carbon intensive technology. And only when it is operating, is it less so. Only when it is operating, and generating the electricity, that is.

The consumption of all these non-renewables has set this planet on a course of global

warming, and climate change. And the EIS, by the NRC, fails to acknowledge, let alone mention, its importance.

So we must start making different energy decisions, and not maintain the status quo. Nuclear energy is not a solution, it is actually part of the problem.

Scientists, in my understanding, of nuclear energy, nuclear electrical energy, is that it is a net energy loss. Net energy loss.

What do I mean by that? Simply that it takes more energy, in the form of diesel, concrete, all the other forms of energy, to mine uranium, refine it, transport it, construct the plants, safely operate them and, finally, decommission a nuclear power plant, than all of the energy it will ever produce.

And where does all the uranium come from, by the way? Last time I checked none of it comes from the United States, or very little.

So anybody ever live through the Arab embargo with oil? Have we given that consideration, and the reliability of the uranium?

The EIS fails to intelligently discuss, to discuss these aspects, nor the incredible costs that all of the PSEG customers, like myself, will pay for

this plant, and its decommissioning over time.

It would probably cost us less, and produce more electricity, more safely, if we simply took the billions of dollars that it is going to cost, to build this plant, and buy solar panels, and wind turbines, for everyone in New Jersey.

Because, ultimately, it would be safer. Oh, and how about safety? It can't happen here, you have heard this.

That is what the Japanese said, that is what other places have said, it can't happen here. But think about it, four nuclear power plants sitting right next to each other is really not too smart.

Considering that, right now, 52 percent or more of New Jersey's electricity is being relied upon, on them, one bad burp from one of those plants, and half of New Jersey could be plunged into darkness for a very long time.

For those of us who have experienced Sandy it will make those weeks, without power, seem like a nanosecond in time, for the 52 percent of the state seeking to replace that power.

And how about the impact to the environment? The Delaware Riverkeeper Network works to protect and enhance the Delaware River, and the

lands that drain into it.

We take that role very seriously. You could say that we speak for the fish. Well, if the fish could speak, right now, they would tell you that another nuclear power plant would not be good for their future.

Already, already, millions of fish are being constantly killed, by PSEG, and its cooling water intakes used for the existing plants.

Some of those fish are endangered species. And it will only get worse with one more nuclear plant sucking ever more water, and ever more fish.

The alternative analysis. The alternative analysis, which was discussed before, is terribly flawed, and totally skewed towards selling nuclear.

Here is a hint. You can't compare one alternative, at one time, to the plant. The plant is always going to have a higher baseload.

But if you took a hybrid mix of alternatives you would begin to find that those would serve as a preferred and safer, and less costly alternative, possibly.

But the current alternative analysis doesn't do justice to what really needs to be done.

You are also committing the state, also

committing this state to failing to reach the 22.5 percent renewable energy goal.

We have all set this goal, within the state, to try to begin to produce electricity more reliably using renewables, and building another nuclear power plant will not be helping get this state closer to that goal.

In fact, we would really be going the other way. So we are defeating our own goals by allowing this plant to be built.

Too much to say, not enough time to say it in. We will provide more detail in our written comments.

Simply put, we need solutions. This proposal, to build another nuclear plant, and the EIS, the Draft EIS, are both, in our opinion, failures.

Neither is solving the problem that we are burdening future generations with. The people here, from the NRC, and the people here from PSEG, know that your job is nuclear.

But our future is not, and should not, be nuclear. We need to look at renewables, we need to look at a mix of renewables.

It is doable if we commit to it. And when I say we I mean our government leaders, and our

corporate leaders, and our educators.

It is doable and, ultimately, I think will be more cost effective. The other thing about renewables, yes, nuclear creates jobs. But renewables probably create ten times more jobs across the entire spectrum.

So we need to look at these issues more seriously. And I think we can create a better future, for our children, again I think that is one of the most important factors lost in this EIS, and the livability of the planet.

And the last time I checked, we are not going in the right direction there either. So my advice, to the NRC, is an old slogan, and I say it simply this way, just say no.

No to this nuclear power plant. And watch, watch how PSEG will find other, less damaging ways, to produce our electricity in a way that will protect us all.

And I say it this way. Don't just think about it, do it. Thank you for your time.

FACILITATOR CAMERON: Thank you, Dave. Our next speakers are, we are going to get to Bob Braun, and Mike DeLuca, and Lee Widjeskog. And this is Bob.

MR. BRAUN: Good evening. My name is Bob Braun, I'm senior vice president, and chief operating officer for PSEG Nuclear, and I'm a member of the leadership team responsible for the operation of the Salem Hope Creek generating stations.

On behalf of PSEG we look forward to this evening's public meeting and the opportunity to continue working with the Nuclear Regulatory Commission, and the public, on our application for an Early Site Permit, as we explore the possibility of building a new nuclear plant here in Salem County.

At PSEG we understand our obligations to the local community, to the environment, and to our friends, family, and coworkers, to provide safe, reliable, economic, and green energy.

We operate our plants within a culture of safety and transparency. We work hard to ensure that there are no surprises. Not in our operations and, certainly, not with our stakeholders.

We take great pride in being a good neighbor. We are proactive to engage the community when a challenge arises, so that they understand the challenge, and get their questions answered.

Again, there are no surprises, including our plans to explore the construction of a new nuclear

power plant.

We know that a new nuclear plant would have a significant impact on the local community. We have met with the County Freeholder Board, and the local municipalities.

And we will continue to work with the communities throughout this process. We recognize that this Early Site Permit, and a possible new plant, would not be possible without the community's continued support.

Thank you.

FACILITATOR CAMERON: Thank you, thank you Bob. Mike?

MR. DeLUCA: Good evening. My name is Mike DeLuca. I'm with Rutgers University, and I work in their Marine and Coastal Science portfolio.

I actually have a couple of titles. And, typically, I don't mention these. But I think it is important, tonight, to mention them, because it brings some context to my remarks.

I actually manage the National Estuarine Research Reserve, which is a state-federal partnership program, that brings science to bear on coastal management and environmental decisions.

I, also, direct an aquaculture center, the

Aquaculture Innovation Center, which is located in Cape May. And it is actually producing shellfish that are being released into Delaware Bay and Delaware River. Oysters in particular, and some of you may have seen the press on horseshoe crabs from a few days ago.

And then, lastly, I'm responsible for a coastal ecosystem study unit that works out of Sandy Hook, that works a lot on coastal processes and shoreline dynamics.

And through these hats that I wear I have a lot of experience with impacts of development and activities on coastal resources, and coastal communities.

I spend a lot of my time doing that. I grew up in New Jersey, spent a lot of time along the Jersey Shore, and I have been at Rutgers for about 25 years now, working on coastal management and coastal resource issues.

And I have to say, in looking over the EIS statement prepared by NRC, and the Army Corps of Engineers, does a really nice job of identifying the environmental impacts, and potential environmental impacts, of the PSEG project.

Certainly there are going to be impacts.

But I do know a lot about PSEG, I'm very familiar with their corporate environmental record.

And, in fact, as a member of a scientific organization I, typically, don't come out to public hearings and speak on behalf of a permit, or a permit applicant.

I have only done it three times. This is the third time. And each one of those times it has been on behalf of PSEG.

And that is why I drove several hours to be here tonight to, again, speak on behalf of their track record with respect to the environment.

And I will mention one example, in particular. And it has to do with the Estuary Enhancement program that was developed, perhaps, about 15 years ago, now.

And it is, perhaps, one of the largest estuarine restoration programs undertaken in our nation. And it set out to restore 20,000 acres of wetlands, very important habitat, 20,000 acres of wetlands to natural tidal flow and function.

And that led to an increase in production of fin fish and shellfish to the Delaware River and bay system.

That cost a lot of money. They brought in

the experts to do that, from a variety of institutions, up and down the coast.

And, by the way, I'm not a paid consultant, and I don't receive any grant funding from PSEG.

So I just wanted to mention that example. There are other examples, as well. They have a lot of expertise in mitigating impacts of their activities on the environment.

Some of the best practices for restoring wetlands came out of their Estuary Enhancement Program. And it is, certainly, a model for a lot of the restoration that is under way now, in the aftermath of superstorm Sandy.

So I'm very confident that PSEG is up to the task of addressing and mitigating the impacts of this particular project.

I wanted to make another point, too. And that is with respect to renewable energy resources. Obviously most of us are aware that there are a number of efforts, under way, to bring solar energy, wind energy, and tidal energy, on-line, particularly here in New Jersey.

These are nascent industries. And if you look at the demand that is projected for energy, for

the next 10 to 20 years, these alternative, or renewable energy sources, just aren't there yet, to deliver, to meet that demand, nowhere near that.

A lot more development needs to occur with respect to that. And, finally, I will just close with a statement about PSEG in terms of their value as a community asset.

I believe President Baillie mentioned this in her remarks. I really think that they are an asset to the environment.

They really contribute a great deal to our state. They continue to do that. They have done things that they haven't had to do, they've gone above and beyond.

And I just feel, very strongly, that they are capable and have the expertise, and can bring the expertise to bear, on mitigating the impacts of this proposed project.

Thank you very much.

FACILITATOR CAMERON: Thank you, Mike. Lee, and I don't want to mangle your name.

MR. WIDJESKOG: You did pretty well the first time.

FACILITATOR CAMERON: I did? Okay, thank you. You provided for the audience, and the court

reporter.

MR. WIDJESKOG: My name is Lee Widjeskog. I'm a retired wildlife biologist for the division of Fish, Game, and Wildlife here in the State of New Jersey.

I have spent a lot of my last 40-plus years, working on salt marshes, and tidal marshes here in New Jersey, in evaluating both management, as well as potential destruction of those marshes.

One of the things about this project, that caught my attention, was the fact that they are going to plan to use an elevated roadway to access the nuclear plant.

In the past what people did was build up a roadway across the meadow. And that would involve, literally, tons and tons of fill, and emplacement of culverts and bridges.

The intent was to get the vehicles in and out, without being flooded out by high tide. The problem with that is that, even though, you haven't technically altered the marsh, other than that which is underneath the footprint, in reality you have restricted the tidal flow.

And once you restrict the tidal flow the area no longer functions as the same type of marsh

that it once was.

This enables it to be more attractive to invasive plants, such as phragmites, also known as common reed in this area.

And, at the same time, it reduces the amount of flow, and that means that there is less fish using the marsh.

Today we have another alternative, and that is the elevated roadway. The one that PSEG has proposed is going to be, at least, ten feet above the surface of the marsh.

By doing this it is going to, one, not impact the marsh except where the piers come into the marsh itself.

The fact that it is ten feet above will also reduce the amount of shading that comes on, underneath. And thus not inhibit the growth of plants.

When you get big tides, or even just the tide that you get during the normal full moon, you are going to have water flowing all the way across that area. But it will be underneath the roadway, and it will not be blocked by the roadway itself.

With that you are going to have a much better situation, you will be able to get vehicles in

and out. And, at the same time, you will not have a major impact on the meadow.

Because there is going to be some impact, on the meadow, you are going to lose certain acreage. And their plans are to enhance an area presently owned by the division, or I should say, managed by the New Jersey Division of Fish and Wildlife.

And this area is over near Mason's Point, and Abbot's Farm road. Their plan is to mitigate that area by enhancing the area, much as was talked about, by the last speaker, similar to what they did with their Estuary Enhancement Program.

We have been involved, the Division has been involved with that program, has been observing it, has made comment on it from the time that it was originally started.

And the one thing we have seen, time and again, is that PSEG has done a very good job of doing what is right, for the environment, in those situations.

And they have brought in people who can do the job right. I have witnessed, many cases, where there were arguments, with some of the people that PSEG had hired.

And once that became, went out into the

public, they soon moved that person to another job, in order to make sure that things would move smoothly.

They hired some of the best people they could get. And those people have made sure that the project has gone along well.

I would expect that the enhancement program, that they are talking about, if it is done on state property, which would be a first, because right now that has not been done, it has always been done on private property.

If it is done it will be beneficial to both the wildlife, as well as the community. In fact, the Division of Fish and Wildlife, back around 2002, had a proposal to actually do some of this same work.

They wanted to put an upland dike around that area to protect the roads within Ellsinboro Township. The Division was unable to do that for lack of funding.

PSEG has taken that basic plan and enhanced it. And if they are able to do this, it will be a benefit to the township, it will stop some of the flooding that goes on now, on Mason Point Road, and Abbot's Farm Road, and it will allow the township to maintain their infrastructure at a much lower cost.

If I lived in the township, which I do

not, I live over in Cumberland County, I would be much more, I would be very much in favor of this project.

Overall what PSEG is planning to do is going to be beneficial to the environment, given the constraints that you have, if you are going to put in a roadway.

Thank you.

FACILITATOR CAMERON: Thank you, Lee. Our next three speakers are Brian Duvau, Kathy Wiwel, and Alexander Barch. And, Bryan?

MR. DUVAU: Good evening, it is a pleasure to be here with you this evening. My name is Bryan Duvau, and I'm the President and CEO of the Center for Aquatic Sciences at Adventure Aquarium.

The Center is a not-for-profit environmental education youth development and research organization, which is the exclusive education provider for Adventure Aquarium.

In addition to our work, at Adventure Aquarium, we engage in a wide array of programs, throughout the region, including an extensive outreach program, as well as youth and family development activities targeting under-served audiences in Camden and Philadelphia.

We have worked with PSEG for many years

taking advantage of the huge marsh restoration program they've put in place, along the shores of Delaware Bay.

We used the restored marsh habitats as living classrooms for field programs we present to a wide array of audience.

PSEG has supported our access, to these sites, and worked together with us to facilitate our ability to conveniently use these habitats for education purposes.

We have programs, in place, that engage under-served teams in water quality monitoring activities, upstream, in the urbanized parts of the Delaware River watershed.

And it is great to be able to compare these urban environments to productive salt marsh habitats further downstream.

Without PSEG's work there would be much less productive marsh habitat providing nutrient cycling and aquatic animal nursery roles in this important system.

We have also worked, with PSEG, to help develop education and laboratory programs they present to school groups, at their energy and environmental resource center in Salem.

Our overall goal is to expose youth and families to the importance of marsh and estuarine habitats so they can become effective stewards of the local environment as a whole.

PSEG has consistently demonstrated their commitment to environmental stewardship through programs like these.

In addition PSEG plays an important leadership role in the Federal Coastal America Program, which is dedicated to improving coastal and estuarine habitats throughout the country.

Adventure Aquarium in Camden, and the Center for Aquatic Sciences, are designated as a coastal ecosystem learning center, through the Coastal America Program.

Each state that hosts a coastal ecosystem learning center also has a corporate wetlands restoration partnership, which engages corporations in supporting wetland restoration projects throughout the state.

In New Jersey PSEG plays a major leadership role in the corporate wetlands restoration partnership, and the New Jersey CWRP is consistently held up as a model of a successful application of this type of collaboration within coastal America.

There is no way this would be the case if not for PSEG's strong leadership of the effort.

Many of our programs focus on, or incorporate, global climate change, and the ocean acidification into education efforts.

We believe it is imperative that people understand the concepts associated with increasing carbon dioxide levels, associated with industrial activities, and the need to develop alternative means of producing electrical power.

In addition to constantly searching for ways to conserve and reduce electrical usage. Clearly, the use of nuclear power stands out as a viable alternative to burning fossil fuels to produce electricity.

And it may be the only alternative that produces 24 hour per day baseload power with no carbon emissions.

Electricity generation represents the single largest category source of carbon emissions in this country. Development of nuclear power resources has a strong environmental component, associated with it, compared to other traditional means of electrical generation.

Locating a new nuclear power plant on

disturbed land, adjacent to an area that is already dedicated to nuclear power generation, makes the most sense.

Much of the infrastructure inherent in a nuclear generation site can easily be applied to the development of a new facility, rather than locating that new facility on a previously undeveloped site.

In addition the plan to include a cooling tower for the new facility, would dramatically reduce the amount of water required from the river for cooling and would, substantially, mitigate the thermal input from the new plant to Delaware Bay.

PSEG has already demonstrated their ability, and willingness, to engage in environmental mitigation activities, as demonstrated by their marsh restoration program.

Every indication points to PSEG's commitment to mitigating any marsh disturbance associated with the construction of a new plant.

I believe that PSEG is a good steward of the environment, as well as the electric resource needs of the regions.

They have demonstrated strong leadership, in support of restoration programs, throughout the state, and have collaborated with a large group of

environmental organizations to preserve and improve coastal resources.

I look forward to continuing to work with them to create opportunities for impactful education programming for the benefit of the region as a whole. Thank you.

FACILITATOR CAMERON: Thank you, Brian. Kathy?

MS. WIWEL: Good evening. My name is Kathy Wiwel and I'm here to speak in support of PSEG and their efforts to license and, ultimately, construct a new nuclear power plant.

I am an educator and with a degree in wildlife science from Penn State, and I'm an active volunteer at Tristate Bird Rescue and Research, in Newark, Delaware, as well as a volunteer researcher with the Bat Spotters Program, of the Delaware Division of Fish and Wildlife.

I appreciate the opportunity to comment on the Draft Environmental Impact Statement being discussed this evening.

A substantial percentage, of the environmental community, are outspoken advocates for the use of renewables as a viable means of generating carbon-free energy to meet our nation's needs.

They believe that solar and wind energy alternatives are environmentally benign, compared to conventional means of energy generation.

Unfortunately many of these proponents are misled, regarding the immense haul, large scale wind and solar installations pose to avian, bat, and terrestrial species, and their habitat.

As described, in the Draft EIS, the size of a wind farm needed to equal the electrical output of the proposed nuclear plant, would have 3,300 large scale turbines, occupying a land mass of 386,000 acres, or 620 square miles.

Similarly a photovoltaic solar installation would need to occupy between 11,000 and 22,000 acres, or over 30 square miles.

This extensive land area would be necessary due to the low energy density, and intermittency, inherent in wind and solar generation.

The impacts to the regional and migratory bird and bat populations, from this scale, of renewable development, would be significant.

There is a growing body of evidence, and peer reviewed research, that existing large scale wind farms are killing increasing numbers of raptors, and other bird species, due to collisions with turbine

tower and blade impacts.

Wind turbines have also been shown to attract and kill regional bats thus impacting already declining bat populations.

Not only are bats physically impacted by the rotation of the massive spinning turbine blades, it has been shown that their lungs are violently ruptured when they fly through the large pressure drop produced by wind turbines.

Large scale wind farms have also been shown to negatively affect migratory patterns of avian species, due to the extensive land masses required to generate meaningful amounts of electricity.

In comparison, the proposed nuclear plant, at the PSEG site, would generate large amounts of carbon free power, much more reliably than any renewable power facility.

This power generation can take place at a plant occupying a substantially smaller footprint, thus minimizing any adverse impact to avian and bat habitat.

It is disturbing to note that, unlike the extensive Environmental Review required for PSEG's efforts, the cumulative environmental impacts from

renewable projects, like those I just described, are oftentimes never formally evaluated, or brought to the attention of the public.

In light of the ability for this project to replace a significant percentage of polluting fossil energy sources, in our region, with reliable, carbon-free, generation at minimal impact on the environment, I support the efforts of PSEG to expand nuclear generation in souther New Jersey.

Thank you, again, for your time and the opportunity to comment on this necessary project.

FACILITATOR CAMERON: Okay, thank you Kathy. Alexander?

MR. BARCH: Good evening. My name is Alexander Barch, and I'm an electrical engineer for PSEG Nuclear at Salem.

The role of a design engineer is to take stewardship of the configuration of the nuclear plant. We make sure that the highest level of technical rigor, possible, is given to every piece of the plant design.

And any changes made to it are, also, done with that absolutely highest technical rigor. My goal, my group focuses on power distribution equipment, and control systems.

When I realized that the electric utility industry would be a great place to work, I interviewed with several utilities in the region.

As luck would have it PSEG Nuclear was looking for someone with my background. I was interviewed, on-site, at Salem Generating Station, and was fascinated, not only by the scale of the plant, but also with the incredibly high level quality of all of the equipment there.

Now that I have worked, at Salem, for almost two years I have noticed some of the subtle changes my new job is having on me.

We take safety to a level I wouldn't have thought existed before I started this job. Even off the clock I find myself practicing the habits that we discuss, every morning, at work.

I have recently taken on a new role as the NAYGN and Chapter Chair, for Salem and Hope Creek. NAYGN stands for North American Young Generation of Nuclear.

Our group participates in several different types of events. We hold networking events, on and off-site, to promote communication between our groups.

We hold networking events -- I have said

that. We do professional development events to help promote careers of our group members.

We also do outreach events to inform the public about nuclear, and to give back to our community. I get a great deal of support, and encouragement, from PSEG Nuclear, and see a high level of involvement from upper management, in all NAYGN activities.

We value the opportunities, not only to participate in these events, but also to interact with such great role models.

I would recommend this industry to anyone and I do. I feel like I'm getting valuable skills in an important industry, and look forward to coming to work, every day, because I know that I can take pride in my work, and that it is appreciated.

We have a culture of respect, at PSEG Nuclear, that allows anyone to speak up if they have a concern, and that is more rare, than I would have thought, as a younger man.

I'm proud of my role here, and I care deeply about our environment, and about nuclear safety. Thank you for your time.

FACILITATOR CAMERON: Thanks, Alexander. David Bailey?

MR. BAILEY: Good evening, my name is Dave Bailey and I'm the chief executive officer of Ranch Hope and, also, I humbly serve as the current chair of the Salem County Chamber of Commerce.

I'm here to give -- I have a different face to tonight's testimony. It is also great, to be here, because another Penn stater was here this evening. So it is good to hear from him, as well. B

Ranch Hope is a 501-C-3 non-profit corporation, headquartered here in Alloway Township, Salem Town, New Jersey. Almost in the shadow of PSEG Nuclear here in this region.

Founded in 1964 Ranch Hope is celebrating its 50th anniversary of serving children, youth, and families, throughout New Jersey.

And for 50 years we have engaged children and families to our model communities where they get health care, education, life skills, such as employment training and placement, as well as unlocking and/or rekindling their faith in our loving Creator.

Our community models provide treatment homes for children diagnosed with diabetes, victims of sexual and physical abuse, and other forms of trauma.

Short term shelters for youth traumatized

by failed foster placements, or adoptions, domestic violence. Now we are serving children who are the victims of both sexual and labor trafficking, supportive housing, special education classrooms, and so forth.

Ranch Hope has a full-time staff of 225 employees, which spans to nearly 300 in the summer season, when employees such as life counselors, and lifeguards, and so forth.

I only mention that to show the economic impact that we, also, have in this area, and to share in how PSEG has impacted our lives at Ranch Hope.

Ranch Hope's interaction with PSEG Nuclear first began through a relationship forged through the Salem County Chamber of Commerce.

The non-profit community in Salem County relies upon these corporate partnerships, assisting with management and financial decisions, as professional coaches, counselors, and board members, providing employment and training opportunities for those we serve.

Supporting our annual campaigns, and our projects, through corporate sponsorship and one time grants.

As Ranch Hope looked upon its 50th

anniversary of serving children, youth, and families here in New Jersey, five years ago, we were faced with mandates requiring capital upgrades to our main campus.

Moving from a rural septic system to a waste water treatment system, moving from treatment homes based on a model of congregate care to smaller homes with individual bedrooms.

And, frankly, our future was in doubt. It was a time for circling the wagons, and seeing who could get on our side, at a very desperate moment in our history.

At that time it was through our relationships through the management at PSEG Nuclear, and throughout the state, and PSEG Cares, when we were circling our wagons, that they helped jump start our campaign and jump start the faith that others had, the trust of our stakeholders, the trust of various financial institutions.

And, tonight, as I stand here today, we are months away from completing what is now going to be a state of the art campus for the children that we serve, and the homes that we provide, and the safety that we provide for the children that we have, from throughout the state of New Jersey.

And that would not be possible tonight, ladies and gentlemen, if it weren't for the support of PSEG, both financially and for their management team.

And for that we are eternally thankful. And we are in full support of their expansion, their application, and their remaining as a key stakeholder, and leader to not only this county, but this region. Thank you.

FACILITATOR CAMERON: Thank you, Dave. Is there anybody else that wants to address us at this point?

(No response.)

FACILITATOR CAMERON: Okay, I think maybe we should keep the record open, perhaps, for a while longer. I doubt that anybody is going to come in. But since the meeting was supposed to be until 10, let's keep the record open.

And there might be an opportunity to have intermission, now, for the folks who want to talk to the NRC staff.

(Short break)

FACILITATOR CAMERON: We are going to have some closing comments from the senior NRC official, Jennifer Dixon-Herrity.

We are going to keep the record open in

case anybody wants in. And please take the opportunity to, if you want to talk to any of the NRC staff, take the opportunity out in the vestibule. So we will close.

MS. DIXON-HERRITY: I want to thank you all for attending this evening and for your participation in our collection of comments addressing the Draft EIS for PSEG's ESP permit request.

Our next steps, with addressing your comments, we recorded them, we will go back and analyze them.

And once we have looked at them, decide if there are any ways that we can improve, or augment, the Draft EIS as it is written.

We will document all of those comments, in an appendix at the back of the -- in the Final EIS, with the responses.

I also had some -- I wanted to thank Salem Community College for allowing us to use this wonderful venue. We had local law enforcement assisting us this evening, providing support. We would like to thank them.

We also would like to thank Chip for facilitation, and Ed for his transcription this evening.

And, with that, I would like to wish you all a nice evening, and thank you again for coming.

(Whereupon, at 8:23 p.m., the above-entitled public meeting was concluded.)

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 40Y. v Salem County residents ~~employed at PSEG~~ not Tom mentioned.
of PSEG employment is a

-What is WIN?

Women in Nuclear, also known as WIN, is ~~an~~ a national 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.

In short, WIN ~~not~~ educates & develops ~~our WIN~~ 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.

Pittsgrove 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~~. & green energy field, Being a Drexel University This is very important to me & my family.

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 proud to~~ happily tells 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 the 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~~ CALLED FOR the use of coastal wetlands as "green infrastructure" for

storm buffering and to contribute to the success of the nation's fisheries. SO DID the PRESIDENTS ~~Similarly~~ 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 an ~~*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 NOx 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 to on 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 polluants 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 Sit 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 a 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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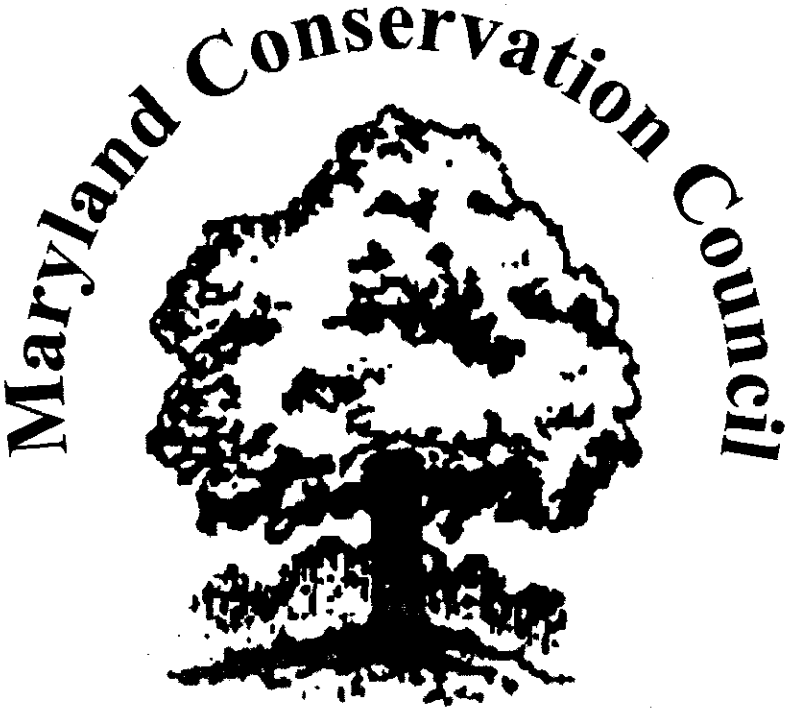

Protecting Maryland's Natural Heritage Since 1969

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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 CO_2

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 CO_2 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 CO_2 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).

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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 CO_2 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?

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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)

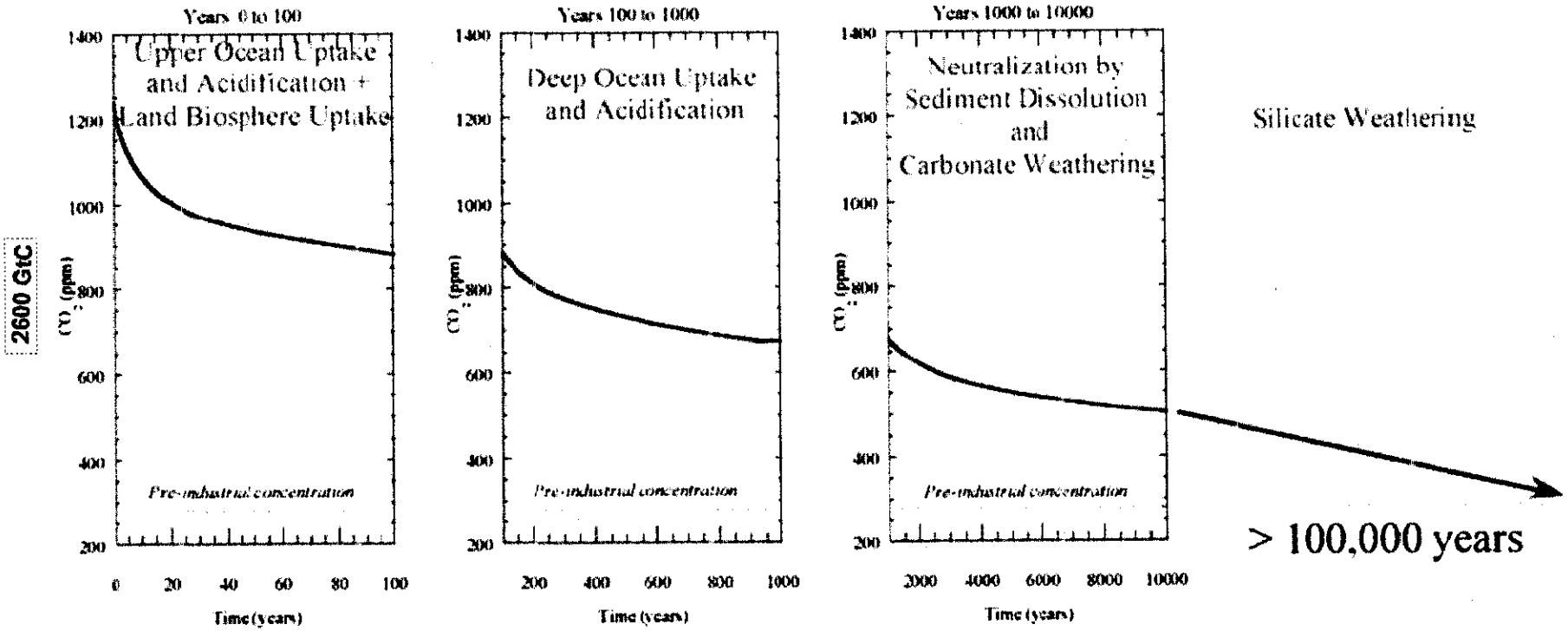
America's Energy Future series from the National Academy of Sciences and National Academy of Engineering (2009):

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

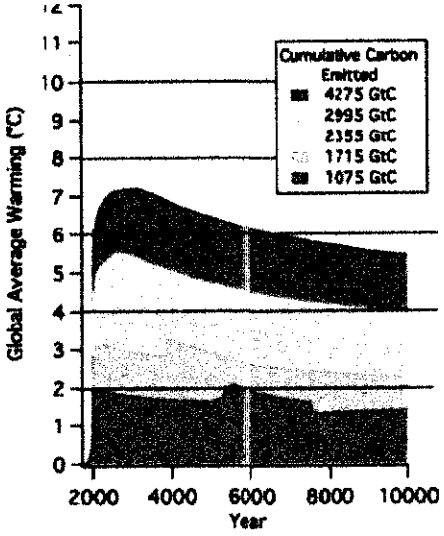
(All of the above are available as free pdf downloads from the National Academies Press web) site.)

Wind Power in America's Future, 20% Wind Energy by 2030, US DOE, 2008, Dover publishing

The rate of removal of CO_2 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

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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 that 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, an 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.

TheD.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.

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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~~ edited a book on Science and Stakeholders (for Springer, ~~expected date~~ 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.

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 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 *Phramities* 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