

**Environmental Impact Statement
Scoping Process**

Summary Report

**PSEG
Early Site Permit Application
Salem County, New Jersey**

September 2011



**U.S. Nuclear Regulatory Commission
Rockville, Maryland**

1. Introduction

On May 25, 2010, PSEG Power, LLC, and PSEG Nuclear, LLC, (PSEG) submitted to the U.S. Nuclear Regulatory Commission (NRC) an application for an Early Site Permit (ESP) for the PSEG site located adjacent to the existing Salem Generating Station (SGS) and Hope Creek Generating Station (HCGS) located in Lower Alloways Creek Township, Salem County, New Jersey. An ESP is an approval of a location for the siting of one or more nuclear power facilities separate from the filing of an application for a construction permit or combine license for such a facility. An ESP application may refer to a reactor's or (reactors') characteristics rather than a detailed reactor design.

As part of the application, PSEG submitted an environmental report (ER) prepared in accordance with the requirements of Title 10 of the Code of Federal Regulations (CFR) Part 51 and 10 CFR Part 52. [See Accession No. ML101480763 in NRC's Agency Document Access and Management System (ADAMS). ADAMS is accessible in the NRC Public Electronic Reading Room: <http://www.nrc.gov/reading-rm/adams/web-based.html> (case-sensitive)]. The ER focuses on potential environmental effects from the construction and operation of up to two new nuclear units at the PSEG ESP site. It also includes evaluation of the environmental consequences of alternatives to the proposed action and evaluation of any mitigating actions that may be taken. NRC regulations implementing the National Environmental Policy Act (NEPA) are contained in 10 CFR Part 51, Subpart A. In addition, the NRC follows the Council on Environmental Quality regulations to the extent set forth in 10 CFR 51.10 and 10 CFR 51.14(b). NRC regulations related to the environmental review of ESP applications are contained in 10 CFR Part 51 and 10 Part CFR 52.

The U.S. Army Corps of Engineers (USACE or Corps), Philadelphia District, is participating in the NEPA process as a cooperating agency. The Memorandum of Understanding between USACE and NRC on environmental reviews related to the issuance of ESPs can be found in ADAMS under Accession No. ML082540354. The request for cooperation on the PSEG ESP environmental review, dated March 30, 2009, can be found at Accession No. ML090700384.

The NRC and USACE staff are preparing an environmental impact statement (EIS) in support of the PSEG ESP application. The proposed action is NRC issuance of an ESP for approval of the PSEG site for up to two new nuclear reactors. The EIS will include an evaluation of the environmental impacts of the proposed action, including environmental impacts of alternatives to the proposed action, including the no-action alternative; alternative energy sources; alternatives related to the facility cooling and circulating water systems; and alternatives available for reducing or avoiding adverse environmental effects.

Finally, the EIS will include an evaluation of alternative sites to determine whether there is an obviously superior alternative to the proposed site.

In addition, the staff is conducting a safety review of the PSEG ESP application in accordance with NUREG-0800, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants*. The environmental review will be conducted in accordance with NUREG-1555, *Standard Review Plans for Environmental Review for Nuclear Power Plants*. The safety review is a separate process from the environmental review, although the two reviews are conducted in parallel.

On October 15, 2010, in accordance with 10 CFR 51.26, the NRC initiated the scoping process by publishing a notice of intent to prepare an environmental impact statement and conduct scoping process in the *Federal Register* (75 FR 63521) (ML102670686). The notice of intent notified the public of the staff's intent to prepare an EIS and to conduct scoping for the ESP application. Through the notice, the NRC also invited the applicant; Federal, Tribal, State, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the public meetings and/or submitting written suggestions and comments no later than December 14, 2010.

The scoping process provides an opportunity for public participation to identify issues to be addressed in the EIS and to highlight public concerns and issues. The notice of intent identified the following objectives of the scoping process:

- Define the proposed action that is to be the subject of the EIS.
- Determine the scope of the EIS and identify significant issues to be analyzed in depth.
- Identify and eliminate from detailed study those issues that are peripheral or that are not significant.
- Identify any environmental assessments and other EISs that are being prepared or will be prepared that are related to, but not part of, the scope of the EIS being considered.
- Identify other environmental review and consultation requirements related to the proposed action.
- Identify parties consulting with the NRC under the National Historic Preservation Act (NHPA), as set forth in 36 CFR 800.8(c)(1)(i).
- Indicate the relationship between the timing of the preparation of the environmental analyses and the NRC's tentative planning and decision-making schedule.

- Identify any cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completing the EIS to the NRC and any cooperating agencies.
- Describe how the EIS will be prepared, and identify any contractor assistance to be used.

Two public scoping meetings were held at the Performing Arts Theater (Davidow Hall), Campus of Salem Community College, in Carneys Point, New Jersey, on November 4, 2010; a meeting in the afternoon at 1:00pm, the other in the evening at 7:00pm. The NRC announced the meetings in local and regional newspapers (*Today's Sunbeam*, *News of Cumberland County*, *Gloucester County Times*, and *The News-Journal* of Wilmington, Delaware) and issued press releases locally. Each scoping meeting began with prepared statements from NRC staff members providing a brief overview of the ESP application review process and the NEPA process. After the NRC's prepared statements, the meetings were opened for public comments.

Twenty-three (23) afternoon scoping meeting attendees and 8 evening scoping meeting attendees provided oral comments that were recorded and transcribed by a certified court reporter. Twelve (12) written statements were received during the meeting. In addition to the oral and written statements provided at the public scoping meeting, 7 letters and one e-mail message were received during the scoping period.

Transcripts for both afternoon and evening scoping meetings can be found in ADAMS under accession numbers ML103270568 and ML103270579, respectively. A scoping meeting summary memorandum (ML103270350) was issued November 29, 2010.

At the conclusion of the scoping period, the NRC staff and its contractor, Oak Ridge National Laboratory, reviewed the scoping meeting transcripts as well as all written material received and identified individual comments. These comments were organized according to topic within the proposed EIS or according to the general topic if outside the scope of the EIS. After comments were grouped according to subject area, the staff prepared responses to the comments, identifying which were within the scope of the EIS.

Table 1 identifies in alphabetical order the individuals providing comments, their affiliation (if given), and the ADAMS accession number that can be used to locate the correspondence. The comment categories are listed in Table 2 in the order that they are presented in this document. Table 3 lists the comment categories in alphabetical order and commenter names and numbers for comments that were

binned into each category. The balance of this document presents the comments with NRC staff responses organized by topic category.

Comment Response Report for Site Document PSEG-ESP1-SC

Table1. Individuals Providing Comments During the Comment Period

Commenter	Affiliation (if stated)	Comment Source and ADAMS Accession #	Correspondence ID
Applegate, Jim	Self	Letter (ML103270230)	0010
Applegate, Jim	Self	Meeting Transcript (ML103270568)	0001-10
Bailey, David	Ranch Hope	Meeting Transcript (ML103270568)	0001-21
Batty, Sandy	Association of NJ Environmental Commissions	Letter (ML103260561)	0003
Birdwell, Margaret (Sally) Sooy	The Swedish Colonial Society	Email (ML103370191)	0015
Blake, Matt	American Littoral Society	Meeting Transcript (ML103270568)	0001-19
Bobbitt, Bruce	Self	Meeting Transcript (ML103270579)	0002-2
Braun, Bob	PSEG	Meeting Transcript (ML103270579)	0002-3
Brown, Elizabeth	Delaware Riverkeeper Network	Letter (ML103500259)	0018
Brubaker, Scott	New Jersey Department of Environmental Protection	Letter (ML103540101)	0019
Brubaker, Scott	New Jersey Department of Environmental Protection	Letter (ML103540101)	0021
Brubaker, Scott	New Jersey Department of Environmental Protection	Letter (ML103540101)	0020
Burger, Joanna	Rutgers, the State University of New Jersey	Letter (ML103370042)	0013
Campbell, Keith	Self	Meeting Transcript (ML103270579)	0002-8
Davis, Robert	Salem City	Meeting Transcript (ML103270568)	0001-1
DeLuca, Mike	Self	Meeting Transcript (ML103270579)	0002-4
Dillingham, Tim	American Littoral Society	Letter (ML103260561)	0003
Duffy, Brian	Salem County Chamber of Commerce	Meeting Transcript (ML103270568)	0001-18
Duvall, Brian	New Jersey Academy for Aquatic Sciences	Meeting Transcript (ML103270579)	0002-5
Eastman, Ajax	Self	Letter (ML103270664)	0012
Eastman, Ajax	Self	Meeting Transcript (ML103270568)	0001-7
Elk, John	Elsinboro Township	Letter (ML103470078)	0016
Galetto, Jane Morton	Citizens United to Protect the Maurice River and Its Tributaries, Inc.	Letter (ML103260561)	0003

Gaye, Earl	Salem County Administrator	Meeting Transcript (ML103270568)	0001-15
Goldsmith, Amy	NJ Environmental Federation	Letter (ML103260561)	0003
Gorski, Stanley	National Marine Fisheries Service	Letter (ML103571097)	0022
Hassler, Charles	Self	Letter (ML103260587)	0005
Hassler, Charles	Self	Meeting Transcript (ML103270568)	0001-17
Joyce, Tom	PSEG Nuclear	Meeting Transcript (ML103270568)	0001-3
Kehoe, Jim	Building Trades in Southern New Jersey	Meeting Transcript (ML103270568)	0001-22
Kugler, John	Salem County Improvement Authority	Letter (ML103260561)	0009
Kugler, John	Salem County Improvement Authority	Meeting Transcript (ML103270568)	0001-12
Lacandro, Roger	Rutgers, the State University of New Jersey	Letter (ML103270170)	0008
Lacandro, Roger	Rutgers, the State University of New Jersey	Meeting Transcript (ML103270568)	0001-9
Lewis, Kenneth	Maryland Conservation Council	Letter (ML103270162)	0007
Lewis, Kenneth	Maryland Conservation Council	Meeting Transcript (ML103270568)	0001-6
McConaghie, Jennifer	U.S. Department of the Interior	Letter (ML103481202)	0017
McNutt, Richard	Tidewaters Gateway Partnership, Inc.	Letter (ML103260561)	0003
Meadow, Norman	Maryland Conservation Council	Meeting Transcript (ML103270568)	0001-5
Molzahn, Robert	Self	Letter (ML103270654)	0011
Molzahn, Robert	Water Resources Association of Delaware River Basin	Meeting Transcript (ML103270568)	0001-8
Nedd, Sheranee	Self	Meeting Transcript (ML103270579)	0002-7
Nolan, Christine	South Jersey Land and Water Trust	Letter (ML103260561)	0003
O'Gorman, Margaret	Conserve Wildlife Foundation of NJ	Letter (ML103260561)	0003
Patouhas, Maria	Chamber of Commerce Southern New Jersey	Letter (ML103260611)	0006
Patouhas, Maria	Chamber of Commerce Southern New Jersey	Meeting Transcript (ML103270568)	0001-23
Pompper, Ellen	Lower Alloways Creek	Meeting Transcript (ML103270568)	0001-2
Richardson, T.J.	Self	Meeting Transcript (ML103270568)	0001-11
Salmon, Edward	New Jersey Energy Coalition	Letter (ML103260578)	0004
Salmon, Edward	New Jersey Energy Coalition	Meeting Transcript (ML103270568)	0001-13
Schneider, Richard	Coalition to Protect Fisheries	Meeting Transcript (ML103270579)	0002-6

Schulte, James	Preservation Salem County	Letter (ML103260561)	0003
Sweeney, Steve	New Jersey State Senate	Meeting Transcript (ML103270579)	0002-1
Thomas, Loren	Salem County Vocational Technical Schools	Meeting Transcript (ML103270568)	0001-20
van Rossum, Maya	The Delaware Riverkeeper	Letter (ML103260561)	0003
Velinsky, David	Academy of Natural Sciences	Letter (ML103350644)	0014
Velinsky, David	Academy of Natural Sciences	Meeting Transcript (ML103270568)	0001-4
Verinoham, Brian	New Jersey State Police	Meeting Transcript (ML103270568)	0001-16
Weinstein, Michael	PSEG Institute for Sustainability Studies	Meeting Transcript (ML103270568)	0001-14

Table 2. Comment Categories

- 2.1 Comments Concerning Process – ESP
- 2.2 Comments Concerning Process - NEPA
- 2.4 Comments Concerning Land Use - Site and Vicinity
- 2.5 Comments Concerning Land Use - Transmission Lines
- 2.6 Comments Concerning Geology
- 2.7 Comments Concerning Hydrology – Surface Water
- 2.8 Comments Concerning Hydrology - Groundwater
- 2.9 Comments Concerning Ecology – Terrestrial
- 2.10 Comments Concerning Ecology - Aquatic
- 2.11 Comments Concerning Socioeconomics
- 2.13 Comments Concerning Historic and Cultural Resources
- 2.14 Comments Concerning Meteorology and Air Quality
- 2.16 Comments Concerning Health - Radiological
- 2.20 Comments Concerning the Uranium Fuel Cycle
- 2.25 Comments Concerning Cumulative Impacts
- 2.26 Comments Concerning the Need for Power
- 2.28 Comments Concerning Alternatives - Energy
- 2.29 Comments Concerning Alternatives - System Design
- 2.31 Comments Concerning Benefit-Cost Balance
- 2.32 General Comments in Support of the Licensing Action
- 2.34 General Comments in Support of Nuclear Power
- 2.35 General Comments in Support of the Existing Plant
- 2.38 General Comments in Opposition to Nuclear Power
- 2.40 Comments Concerning Issues Outside Scope - Emergency Preparedness
- 2.41 Comments Concerning Issues Outside Scope - Miscellaneous
- 2.43 Comments Concerning Issues Outside Scope - Safety

Table 3. Comment Categories

Comment Category	Commenter (Comment ID)
Alternatives-Energy	<ul style="list-style-type: none"> • Applegate, Jim (0001-10-1) (0001-10-2) (0001-10-4) (0010-1) • Campbell, Keith (0002-8-3) • DeLuca, Mike (0002-4-7) • Duvall, Brian (0002-5-3) • Eastman, Ajax (0001-7-3) (0001-7-5) (0001-7-6) (0001-7-7) (0001-7-10) (0001-7-14) (0012-3) (0012-6) (0012-7) (0012-10) (0012-12) • Hassler, Charles (0001-17-4) • Kugler, John (0001-12-4) (0009-5) • Lewis, Kenneth (0001-6-2) (0001-6-4) (0001-6-5) (0001-6-6) (0007-3) (0007-4) (0007-5) • Molzahn, Robert (0001-8-4) (0001-8-5) (0011-3) (0011-5) • Nedd, Sheranee (0002-7-1) • Salmon, Edward (0001-13-1) (0001-13-6) (0001-13-7) (0001-13-14) (0004-1) (0004-2) (0004-5) • Schneider, Richard (0002-6-2) (0002-6-22) • Velinsky, David (0001-4-10) (0014-15)
Alternatives-System Design	<ul style="list-style-type: none"> • Batty, Sandy (0003-6) • Blake, Matt (0001-19-7) • Brown, Elizabeth (0018-5) (0018-8) (0018-10) (0018-14) (0018-18) • Dillingham, Tim (0003-6) • Galetto, Jane Morton (0003-6) • Goldsmith, Amy (0003-6) • Lacandro, Roger (0001-9-4) (0008-5) • McNutt, Richard (0003-6) • Molzahn, Robert (0001-8-6) (0011-8) • Nolan, Christine (0003-6) • O'Gorman, Margaret (0003-6) • Schneider, Richard (0002-6-15) • Schulte, James (0003-6) • van Rossum, Maya (0003-6) • Velinsky, David (0014-17)
Benefit-Cost Balance	<ul style="list-style-type: none"> • Kehoe, Jim (0001-22-6) • Kugler, John (0009-8) • Salmon, Edward (0001-13-11) (0004-3)
Cumulative Impacts	<ul style="list-style-type: none"> • Eastman, Ajax (0001-7-4) (0012-5)

- Lewis, Kenneth (0001-6-7) (0007-6)
- Schneider, Richard (0002-6-1) (0002-6-11)

Ecology-Aquatic

- Applegate, Jim (0001-10-5) (0001-10-7) (0001-10-9) (0010-5) (0010-7)
- Batty, Sandy (0003-4)
- Blake, Matt (0001-19-4)
- Brown, Elizabeth (0018-4) (0018-13) (0018-17) (0018-21)
- Brubaker, Scott (0019-5) (0019-23) (0019-25) (0020-3) (0020-9) (0020-12) (0020-14) (0020-17) (0020-19) (0020-21) (0020-23) (0020-26)
- DeLuca, Mike (0002-4-3) (0002-4-5) (0002-4-6)
- Dillingham, Tim (0003-4)
- Duvall, Brian (0002-5-2)
- Eastman, Ajax (0001-7-8) (0001-7-12) (0012-2) (0012-11) (0012-14)
- Galetto, Jane Morton (0003-4)
- Goldsmith, Amy (0003-4)
- Gorski, Stanley (0022-2) (0022-4) (0022-6) (0022-10) (0022-12) (0022-14) (0022-15)
- Lacandro, Roger (0001-9-3) (0001-9-5) (0008-6)
- McNutt, Richard (0003-4)
- Molzahn, Robert (0001-8-7) (0011-6) (0011-9) (0011-12)
- Nolan, Christine (0003-4)
- O'Gorman, Margaret (0003-4)
- Schneider, Richard (0002-6-10) (0002-6-13) (0002-6-18) (0002-6-20)
- Schulte, James (0003-4)
- van Rossum, Maya (0003-4)
- Velinsky, David (0001-4-2) (0001-4-4) (0001-4-6) (0014-2) (0014-4) (0014-6) (0014-8) (0014-10) (0014-12)
- Weinstein, Michael (0001-14-2) (0001-14-4) (0001-14-5) (0001-14-8) (0001-14-10)

Ecology-Terrestrial

- Applegate, Jim (0001-10-4) (0001-10-6) (0001-10-8) (0010-4) (0010-6)
- Batty, Sandy (0003-3) (0003-7)
- Blake, Matt (0001-19-3)
- Brown, Elizabeth (0018-3) (0018-11)
- Brubaker, Scott (0019-22)
- Burger, Joanna (0013-2) (0013-3) (0013-4) (0013-5) (0013-6)
- Campbell, Keith (0002-8-5)
- DeLuca, Mike (0002-4-2)
- Dillingham, Tim (0003-3) (0003-7)
- Duvall, Brian (0002-5-1)
- Eastman, Ajax (0001-7-8) (0001-7-9) (0001-7-11) (0001-7-13) (0012-4) (0012-8) (0012-9) (0012-13)

- Galetto, Jane Morton (0003-3) (0003-7)
- Goldsmith, Amy (0003-3) (0003-7)
- Gorski, Stanley (0022-5) (0022-8) (0022-9) (0022-11) (0022-13)
- Lacandro, Roger (0001-9-3) (0008-4)
- Lewis, Kenneth (0007-7)
- McNutt, Richard (0003-3) (0003-7)
- Meadow, Norman (0001-5-5)
- Molzahn, Robert (0001-8-10) (0001-8-11) (0011-11) (0011-13)
- Nolan, Christine (0003-3) (0003-7)
- O'Gorman, Margaret (0003-3) (0003-7)
- Schulte, James (0003-3) (0003-7)
- van Rossum, Maya (0003-3) (0003-7)
- Velinsky, David (0001-4-1) (0001-4-3) (0001-4-5) (0014-3) (0014-5) (0014-7) (0014-9)
- Weinstein, Michael (0001-14-1) (0001-14-3) (0001-14-6) (0001-14-7) (0001-14-9)

Geology

- Lacandro, Roger (0008-3)
- Schneider, Richard (0002-6-7)

Health-Radiological

- Brubaker, Scott (0019-6) (0019-8)
- Meadow, Norman (0001-5-2) (0001-5-4) (0001-5-8)

Historic and Cultural Resources

- Batty, Sandy (0003-7)
- Birdwell, Margaret (Sally) Sooy (0015-1)
- Blake, Matt (0001-19-6)
- Brubaker, Scott (0019-27) (0021-3) (0021-4) (0021-5) (0021-6)
- Dillingham, Tim (0003-7)
- Galetto, Jane Morton (0003-7)
- Goldsmith, Amy (0003-7)
- McNutt, Richard (0003-7)
- Nolan, Christine (0003-7)
- O'Gorman, Margaret (0003-7)
- Schulte, James (0003-7)
- van Rossum, Maya (0003-7)

Hydrology-Groundwater

- Brubaker, Scott (0019-1) (0019-7) (0021-2)

Hydrology-Surface Water

- Batty, Sandy (0003-2)
- Blake, Matt (0001-19-2)
- Brown, Elizabeth (0018-2) (0018-9) (0018-12) (0018-15) (0018-16)
- Brubaker, Scott (0019-2) (0019-3) (0019-24) (0019-26) (0020-10) (0020-13) (0020-15) (0020-18) (0020-20) (0020-22) (0020-

- 24) (0020-27)
- DeLuca, Mike (0002-4-4)
- Dillingham, Tim (0003-2)
- Galetto, Jane Morton (0003-2)
- Goldsmith, Amy (0003-2)
- Gorski, Stanley (0022-1) (0022-3)
- Lacandro, Roger (0001-9-7) (0008-8)
- McNutt, Richard (0003-2)
- Molzahn, Robert (0001-8-1) (0001-8-8) (0001-8-9) (0001-8-13) (0011-1) (0011-10) (0011-14)
- Nolan, Christine (0003-2)
- O'Gorman, Margaret (0003-2)
- Schneider, Richard (0002-6-9)
- Schulte, James (0003-2)
- van Rossum, Maya (0003-2)
- Velinsky, David (0001-4-7) (0001-4-9) (0014-11) (0014-13)

Land Use-Site and Vicinity

- Batty, Sandy (0003-9) (0003-10)
- Blake, Matt (0001-19-9)
- Brown, Elizabeth (0018-7)
- Brubaker, Scott (0019-13) (0019-14) (0019-15) (0019-17) (0019-21) (0020-2) (0020-4) (0020-5) (0020-6) (0020-7) (0020-8) (0020-11) (0020-16) (0020-25)
- Dillingham, Tim (0003-9) (0003-10)
- Galetto, Jane Morton (0003-9) (0003-10)
- Goldsmith, Amy (0003-9) (0003-10)
- McNutt, Richard (0003-9) (0003-10)
- Molzahn, Robert (0001-8-12)
- Nolan, Christine (0003-9) (0003-10)
- O'Gorman, Margaret (0003-9) (0003-10)
- Schulte, James (0003-9) (0003-10)
- van Rossum, Maya (0003-9) (0003-10)

Land Use-Transmission Lines

-
- Brubaker, Scott (0019-31)
- McConaghie, Jennifer (0017-1)

Meteorology and Air Quality

- Brubaker, Scott (0019-4) (0019-9) (0019-10) (0019-11) (0019-12) (0019-16) (0019-18) (0019-19) (0019-20)

Need for Power

- Campbell, Keith (0002-8-2)
- DeLuca, Mike (0002-4-8)
- Duvall, Brian (0002-5-4)
- Hassler, Charles (0001-17-9) (0005-3) (0005-5)
- Kehoe, Jim (0001-22-4)
- Lacandro, Roger (0008-2)

- Molzahn, Robert (0001-8-3) (0011-4)
- Patouhas, Maria (0006-4)
- Salmon, Edward (0001-13-13) (0004-6)
- Schneider, Richard (0002-6-21)
- Sweeney, Steve (0002-1-2)

Opposition-Nuclear
Power

- Schneider, Richard (0002-6-4)
- Schneider, Richard (0002-6-8)

Outside Scope-
Emergency
Preparedness

- Verinoham, Brian (0001-16-1)

Outside Scope-
Miscellaneous

- Hassler, Charles (0001-17-8) (0005-9)

Outside Scope-Safety

- Schneider, Richard (0002-6-6)

Process-ESP

- Brubaker, Scott (0020-1)
- Schneider, Richard (0002-6-17) (0002-6-19)

Process-NEPA

- Batty, Sandy (0003-1) (0003-8)
- Blake, Matt (0001-19-1) (0001-19-8)
- Brown, Elizabeth (0018-1) (0018-6) (0018-19) (0018-20)
- Brubaker, Scott (0019-30)
- Dillingham, Tim (0003-1) (0003-8)
- Galetto, Jane Morton (0003-1) (0003-8)
- Goldsmith, Amy (0003-1) (0003-8)
- McNutt, Richard (0003-1) (0003-8)
- Nolan, Christine (0003-1) (0003-8)
- O'Gorman, Margaret (0003-1) (0003-8)
- Salmon, Edward (0001-13-5)
- Schulte, James (0003-1) (0003-8)
- van Rossum, Maya (0003-1) (0003-8)

Socioeconomics

- Batty, Sandy (0003-6)
- Blake, Matt (0001-19-5)
- Bobbitt, Bruce (0002-2-2)
- Braun, Bob (0002-3-1) (0002-3-2)
- Campbell, Keith (0002-8-4)
- Davis, Robert (0001-1-1)
- Dillingham, Tim (0003-6)

- Duffy, Brian (0001-18-3) (0001-18-5)
- Elk, John (0016-4) (0016-5)
- Galetto, Jane Morton (0003-6)
- Gaye, Earl (0001-15-2)
- Goldsmith, Amy (0003-6)
- Hassler, Charles (0001-17-6) (0005-7)
- Joyce, Tom (0001-3-1) (0001-3-2)
- Kehoe, Jim (0001-22-3)
- Kugler, John (0001-12-2) (0001-12-3) (0009-3) (0009-4)
- Lacandro, Roger (0001-9-8) (0008-9)
- McNutt, Richard (0003-6)
- Molzahn, Robert (0001-8-2) (0011-2)
- Nolan, Christine (0003-6)
- O'Gorman, Margaret (0003-6)
- Patouhas, Maria (0001-23-2) (0006-2) (0006-3)
- Salmon, Edward (0001-13-12) (0004-4)
- Schneider, Richard (0002-6-12) (0002-6-14) (0002-6-16)
- Schulte, James (0003-6)
- Sweeney, Steve (0002-1-4)
- van Rossum, Maya (0003-6)

Support-Licensing
Action

- Bailey, David (0001-21-1) (0001-21-2)
 - Bobbitt, Bruce (0002-2-3)
 - Burger, Joanna (0013-1)
 - Davis, Robert (0001-1-2)
 - DeLuca, Mike (0002-4-1) (0002-4-9)
 - Duffy, Brian (0001-18-1) (0001-18-2) (0001-18-7)
 - Duvall, Brian (0002-5-6)
 - Eastman, Ajax (0001-7-2) (0001-7-4) (0012-2)
 - Elk, John (0016-1) (0016-6)
 - Gaye, Earl (0001-15-3)
 - Hassler, Charles (0001-17-1) (0001-17-2) (0001-17-7) (0005-1) (0005-2) (0005-8)
 - Kehoe, Jim (0001-22-1) (0001-22-7)
 - Kugler, John (0001-12-1) (0001-12-6) (0009-1) (0009-2) (0009-7)
 - Lacandro, Roger (0001-9-1) (0001-9-6) (0008-1) (0008-7)
 - Lewis, Kenneth (0001-6-1) (0001-6-8) (0001-6-9) (0007-1) (0007-8)
 - Meadow, Norman (0001-5-9)
 - Molzahn, Robert (0001-8-16) (0011-7) (0011-6)
 - Nedd, Sheranee (0002-7-2)
 - Patouhas, Maria (0001-23-1) (0006-1) (0006-5)
 - Pompper, Ellen (0001-2-2)
 - Richardson, T.J. (0001-11-1)
 - Salmon, Edward (0001-13-15) (0004-7)
 - Sweeney, Steve (0002-1-1) (0002-1-3) (0002-1-6)
 - Thomas, Loren (0001-20-5)
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Support-Nuclear Power

- Duvall, Brian (0002-5-5)
- Eastman, Ajax (0001-7-1) (0001-7-15) (0012-1) (0012-15)
- Hassler, Charles (0005-10)
- Kehoe, Jim (0001-22-8)
- Lacandro, Roger (0001-9-2)
- Lewis, Kenneth (0001-6-3) (0007-2)
- Meadow, Norman (0001-5-1) (0001-5-7)
- Pompper, Ellen (0001-2-1)
- Salmon, Edward (0001-13-2) (0001-13-4) (0001-13-8) (0001-13-9) (0001-13-10) (0001-13-16) (0001-13-18) (0004-2) (0004-9)
- Thomas, Loren (0001-20-3) (0001-20-4)
- Velinsky, David (0014-18)
- Meadow, Norman (0001-5-2) (0001-5-3) (0001-5-4) (0001-5-8)

Support-Plant

- Bailey, David (0001-21-3)
- Bobbitt, Bruce (0002-2-1)
- Burger, Joanna (0013-7)
- Campbell, Keith (0002-8-1) (0002-8-6)
- Duffy, Brian (0001-18-4) (0001-18-6)
- Elk, John (0016-2) (0016-3)
- Gaye, Earl (0001-15-1) (0001-15-4)
- Kehoe, Jim (0001-22-2)
- Kugler, John (0001-12-5) (0009-6)
- Sweeney, Steve (0002-1-5)
- Thomas, Loren (0001-20-1)
- Velinsky, David (0014-1) (0014-16)

Uranium Fuel Cycle

- Applegate, Jim (0001-10-3) (0010-3)
 - Brubaker, Scott (0021-1)
 - Meadow, Norman (0001-5-6)
 - Salmon, Edward (0001-13-3)
 - Schneider, Richard (0002-6-5)
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2.1 Comments Concerning Process - ESP

Comment: The Office of Dredging and Sediment Technology's (ODST) primary overall concern is that the final product of the Early Site Permit Application (ESPA) process could be a conclusion that the PSEG Salem site is suitable for the construction and operation of a new nuclear power facility, with the resulting future inability of the NJDEP (or anyone else) to raise any concerns about potential environmental impacts of the proposed project. This is because all environmental impacts concerns are supposed to

be addressed in the ESPA process - but they have not (at least in the application documents developed to date).

Further, this is problematic because many of the detailed analyses needed to evaluate the potential impacts of the proposed project are to be conducted as part of future State and federal permit review processes. Likewise, the development of potential measures to mitigate identified impacts are also relegated to future State and Federal permitting processes. Thus, it is not clear if approval of the construction and operation of a new nuclear power facility at the Salem site via the ESPA process would preclude the ability of NJDEP (and other regulatory agencies) to deny issuance of any required permits based on environmental impact concerns.

In part, this is due to a lack of specifics concerning the proposed project (reactor design, the need for an off-site transmission line, etc.). However, more detailed, site-specific analyses could be conducted as part of the ESPA process at a level sufficient for a preliminary determination that the site is suitable for use. Issuance of a CZM Consistency Determination by the NJDEP for the project would essentially constitute such a determination. However, as highlighted below in Comment A, although PSEG is seeking a CZM Consistency Determination from NJDEP as part of the ESPA process, the information in the ESPA documents submitted to date is incomplete and not at level sufficient to issue such a determination. (0020-1 [Brubaker, Scott])

Response: *With respect to environmental matters, the NRC's ESP process is as follows: The NRC regulations governing an ESP application require that an applicant for an ESP must provide the NRC with an ER that meets the requirements of 10 CFR 51.45 and 51.50. As described in 10 CFR 52.17, the contents of an application must focus on the environmental effects of construction and operation of a reactor or reactors that might be built at the proposed site, even though an ESP does not authorize such construction and operation. In addition, Section 52.18 requires that the staff prepare an EIS based on the application that focuses on the same matters. Both the ER and the EIS must include an evaluation of alternative sites to determine whether there is any obviously superior site to the site proposed. Certain issues, however, such as the benefits of the action and alternative energy sources, may be deferred until such time as the applicant submits a COL or CP application. For the ESP, the NRC prepares an EIS that resolves numerous issues on the basis of existing environmental site characteristics, as well as values of power plant design parameters set forth in the application. These issues are candidates for issue preclusion in a proceeding on an application referencing the ESP (i.e., such an issue would not be subject to litigation in a later licensing proceeding). If an applicant chooses the plant parameter envelope (PPE) approach, as PSEG has done here, the application postulates bounding values for these plant design parameters. NRC regulations allow an ESP applicant to defer an issue (e.g., the benefits assessment), as PSEG elected here, but also require that a COL applicant referencing such an ESP address the issue in its COL application. An application for a CP or COL referencing an ESP includes: a) demonstrate that the design of the proposed facility falls within the parameters specified in the ESP; b) indicate whether the site is suitable for construction and operation of one or more nuclear power plants; and c) identify whether there is new and significant information related to any issue resolved in the ESP proceeding. The Supplemental EIS (SEIS) prepared for the COL will build upon the ESP EIS, should one be issued. If there is no new and significant information on an issue, the COL SEIS will bring forward the conclusion reached in the ESP EIS. If there is new and significant information, then a conclusion will*

be reached in the COL SEIS on the basis of the analysis of the new and significant information.

2.2 Comments Concerning Process - NEPA

Comment: And it does amaze me how long the process takes. If you watched the slides today, you saw that we don't get to the final of this first step, until the spring of 2013. So the process is a long period of time, and I think at some time we have to face, how do we speed that up, so we can make it less expensive, but still do an excellent job of siting nuclear. (0001-13-5 [Salmon, Edward])

Response: *These comments provide general information on the NEPA process. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

Comment: The undersigned groups of the South Jersey Bay Shore Coalition are writing with a concern about a potential land swap in Lower Alloways Creek of New Jersey. PSEG is seeking to secure title to 84 acres on Artificial Island, from the Army Corps of Engineers, for the purposes of constructing a new nuclear power plant, Salem 4. PSEG has submitted application materials to the Nuclear Regulatory Commission demonstrating their intent to build a fourth power plant at Salem and Hope Creek. In exchange of these 84 acres the Corps is asking PSEG to identify and transfer ownership, to the Army Corps of Engineers of another 84 acres, yet to be determined, that the Corps would use as a dredge spoils disposal site for its projects.

It is clear the land swap is intended to result in the construction of Salem 4 on Artificial Island. The Corps affirmative action to remove the impediment of federal ownership of the lands that PSEG desires for this purpose, to decide and negotiate a land swap, and to take actions to accomplish this negotiation, all for the purposes of constructing Salem 4 on this location, is a major federal action that will affect the human environment and, therefore, is subject to NEPA.

I think coming in late I was catching the tail end that some of these things are, indeed, happening, which would have us pleased greatly.

Additionally, pursuing the land swap is for the purposes of identifying, securing, and utilizing a new location for a federal confined disposal facility that will receive dredge spoils from the Delaware River, and/or other Army Corps of Engineers projects. This, too, is a major federal action that will affect the human environment and, therefore, is subject to NEPA.

Therefore it was required that before engaging in negotiation and implementation of this action, the Corps must prepare an Environmental Impact Statement. And we would suggest, considering the use to be made of this land, it is most probable that NEPA would require and should require completion of a full Environmental Impact Statement. (0001-19-1 [Blake, Matt])

Comment: The Army Corps needs to examine these and other issues, including allowing for public comment, and going through the EA and EIS process, before the Corps makes the decision, and takes the action that supports, assists, regulates,

approves, and encourages to construct Salem 4 in Artificial Island and create a new confined disposal facility for accommodating dredge spoil sites from federal projects. (0001-19-8 [Blake, Matt])

Comment: The undersigned groups of the South Jersey Bayshore Coalition are writing with concerns about a potential land swap in the Lower Alloways Creek area of New Jersey. It appears that the Philadelphia District of the US Army Corps of Engineers is in negotiations with PSEG regarding a land swap of 84 acres. PSEG is seeking to secure title to 84 acres on Artificial Island from the Army Corps for the purposes of constructing a new nuclear power plant, (Salem 4). PSEG has submitted application materials to the Nuclear Regulatory Commission (NRC) demonstrating their intent to build a 4th nuclear plant at the Salem-Hope Creek site. In exchange for these 84 acres, the Army Corps is asking that PSEG identify and transfer ownership to the Army Corps of another 84 acres, yet to be determined, that the Army Corps would use as a dredge spoil disposal site for its projects.

We believe that negotiating and undertaking the land swap for the purposes of allowing the construction of Salem 4 by PSEG on this location and identifying a new location to be used for Army Corps spoils disposal, is the undertaking of a new activity(ies) and project(s) that are being assisted, regulated; and/or approved by the Army Corps, a federal agency.

In this process, it is likely that the Army Corps is and/or will be preparing and adopting plans and documents that would encourage, support and guide the selection of the Artificial Island location as the preferred alternative for construction of a new nuclear facility in the region, i.e. Salem 4. We understand that through this process the Army Corps will necessarily also be identifying, pursuing, planning and/or using (including adopting plans and documents) a new location for a federal confined disposal facility for dredge spoils.

It is clear the land swap is intended to result in the construction of Salem 4 on Artificial Island. The Army Corps' affirmative action to remove the impediment of federal ownership of the lands PSEG desires for this purpose, to decide to negotiate a land swap, and to take actions to accomplish this negotiation, all for the purposes of constructing Salem 4 in this location, is a major federal action that will affect the human environment and therefore is subject to NEPA.

Additionally, pursuing the land swap is for the purposes of identifying, securing and utilizing a new location for a federal confined disposal facility that will receive dredge spoils from the Delaware River and/or other Army Corps projects. This too is a major federal action that will affect the human environment and therefore is subject to NEPA.

In our view, the Army Corps is undertaking a series of systematic and connected agency steps in order to accomplish the goals of allowing construction of Salem 4 on Artificial Island and utilizing a new location for purposes of dredge spoil disposal for Army Corps projects. Therefore, it is required that before engaging in the negotiation and implementation of this action the Army Corps must prepare an Environmental Assessment (EA). And we would suggest, considering the use to be made of this land, it is most probable that an EA will and should require completion of a full Environmental Impact Study Statement. (EIS). (0003-1 [Batty, Sandy] [Dillingham, Tim] [Galletto, Jane

Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Comment: The Army Corps needs to examine these and other issues, including allowing for public comment, and going through an EA and an EIS process, before the Army Corps makes the decision and takes the action that supports, assists, regulates, approves, encourages, and acquiesces to construction of Salem 4 on Artificial Island and creates a new confined disposal facility for accommodating dredge spoils from federal projects. (0003-8 [Batty, Sandy] [Dillingham, Tim] [Galetto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Comment: The EIS should require clearer evaluation of PSEG's use of the Army Corps confined disposal facility, the agreement to do so, and any cumulative impacts resulting from use of the site. According to the ER 4.1-9, there will be construction laydown and related activities located in the Corps CDF site. It is unclear what long-term or permanent impacts may result, despite the site use for temporary activity. The NRC should consider these potential impacts and the full range of alternatives in its EIS. Moreover, the EIS should consider the chain reaction of environmental impacts if the CDF is used for another purpose. The NRC should also examine the mechanism by which the Army Corps is providing the use of this land and any impacts this may have on Army Corps permit reviews or regulatory processes for the Project. (0018-6 [Brown, Elizabeth])

Response: *The U.S. Army Corps of Engineers-Philadelphia District (Corps) is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange described in these comments will be evaluated in the EIS.*

Comment: PSEG submitted an Environmental Report (ER) to NRC in May 2010 which contains the project proponent's assessment of environmental issues related to site construction and operation. The ER uses the NRC criteria established in 10 CFR 51, Subpart A, Appendix B, Table B-1, Footnote 3 to assess whether environmental effects will be "small", "moderate" or "large" (Footnote #2). Delaware Riverkeeper Network is concerned that the characterizations of environmental effects by PSEG will be accepted whole-cloth in an EIS for the Project, in effect outsourcing the burden of drafting the EIS to the project proponent. This would constitute an inappropriate use of the NEPA process. Therefore, DRN urges NRC to review certain issues in more detail, including: clearer evaluation of PSEG's use of the Army Corps confined disposal facility, and cumulative impacts resulting from use of that site; water impacts including dredging and construction impacts; filling of wetlands; floodplain impacts; habitat impacts and impacts to species, especially Atlantic sturgeon; and impacts and evaluation of alternatives for cooling systems.

(Footnote #2): Small effects are defined as "Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource. For the purposes of assessing radiological impacts, the Commission has concluded that those impacts that do not exceed permissible levels in the Commission's regulations are considered small. Moderate effects are defined as "Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource." Large effects are defined as, "Environmental effects are

clearly noticeable and are sufficient to destabilize important attributes of the resource."
(0018-1 [Brown, Elizabeth])

Response: *The NRC and U.S. Army Corps of Engineers-Philadelphia District, which is a Cooperating Agency on the EIS for PSEG's ESP application, will use information provided in PSEG's Environmental Report, as well as other publicly-available information, to prepare the EIS. NRC and the Corps will verify the information provided by PSEG, and will conduct a thorough, independent assessment of the environmental impacts of the proposed actions (including actions proposed by the Corps) in the EIS. The EIS will assess potential impacts to all relevant environmental resources, and will address the specific issues raised in this comment: PSEG's use of the Corps' confined disposal facility and cumulative impacts resulting from use of that site; water impacts including dredging and construction impacts; filling of wetlands; floodplain impacts; habitat impacts and impacts to species, especially Atlantic sturgeon; and impacts and evaluation of alternatives for cooling systems.*

Comment: One final note is that in considering impacts in the EIS, construction-phase impacts should not be discounted as temporary. According to the ER, construction--and therefore construction-related impacts--will occur over an approximately five year time period and will include site excavation and the construction of safety-related structures.
(0018-19 [Brown, Elizabeth])

Response: *The EIS will evaluate all reasonably foreseeable direct, indirect, and cumulative impacts of building and operating new facility, regardless of whether an impact is temporary.*

Comment: DRN also stresses the importance of public transparency concerning the Army Corps' role in this Project, including transparency regarding the Corps' prior and anticipated commitments to PSEG that may impact its permit review function. (0018-20 [Brown, Elizabeth])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application will be evaluated in the EIS.*

Comment: 9) Environmental Report, Chapter 4, Page 4.6-2,

4.6.2 Adverse Environmental Impacts

The ESP states, "Upon receipt of an ESP permit, PSEG may choose to obtain a Limited Work Authorization (LWA) to carry out site preparation and preconstruction activities. Additionally, site preparation activities, some excavation work, and construction of support buildings, roads, fences, parking lots, potable water systems, and other nonsafety-related facilities may be initiated prior to receipt of a combined license (COL). These preconstruction activities can be carried out prior to issuance of a COL and are separated from NRC-regulated construction activities."

Comment

Comment 1 (above) also applies to this portion of the project.

10) Environmental Report, Chapter 4, Page 4.6-4

4.6.3 Measures and Controls to Limit Adverse Impacts

The ESP states, "In addition to the general measures discussed above, the following specific factors limit potential adverse environmental impacts related to construction activities at the PSEG Site: compliance with federal, state, and local laws, ordinances, and regulations intended to prevent or minimize adverse environmental effects (for example, solid waste management, erosion and sediment control, air emissions ...)

Comment

Please see comment 1 for a description of one of the Federal regulations that is applicable to this project. (0019-30 [Brubaker, Scott])

Response: *The EIS assessment of impacts from construction and operations activities will include a discussion of applicable Federal, State, and local laws and regulations.*

2.4 Comments Concerning Land Use - Site and Vicinity

Comment: 2) Environmental Report, Chapter 2, Page, 2.2-7

2.2.3.4 Proposed Access Road

The ESP states, "Additional access road capacity is necessary to address future transportation needs for the PSEG Site. This access road is conceptually designed as a three-lane causeway to be constructed on elevated structures for its entire length through the coastal wetlands."

Comment

Comment 1 (above) also applies to this portion of the project. (0019-13 [Brubaker, Scott])

Comment: 3) Environmental Report, Chapter 4, Page 4.2-3

4.2.1.1.2 Land Construction

The ESP states, "Site preparation and construction activities will be conducted in accordance with federal, state, and local regulations, as appropriate. Necessary permits and authorizations will be obtained and appropriate environmental controls implemented (e.g. stormwater management systems, groundwater monitoring wells, and spill containment controls) prior to commencement of earth disturbing activities."

Comment

Please see comment 1 for a description of one of the Federal regulations that is applicable to this project. (0019-14 [Brubaker, Scott])

Comment: 4) Environmental Report, Chapter 4, Page 4.4-2,

4.4.1.1.1.1 On-site Construction Activities

The ESP states, "An increase in daily traffic (up to 3150 construction worker vehicles and 50 trucks) is expected during peak construction along roads passing through Elsinboro and Lower Alloways Creek Township and Salem City. The composition of this traffic includes passenger cars and light-duty trucks of the construction workforce, as well as truck traffic for delivery of construction materials and heavy equipment used to support facility construction (e.g. excavators, bulldozers, heavy haul trucks, cranes, etc). Potential effects of this daily traffic are considered as indirect impacts associated with on-site construction activities."

Comment

Comment 1 (above) also applies to this portion of the project.

5) Environmental Report, Chapter 4, Page 4.4-2,
4.4.1.1.1.2 Off-Site Construction Activities

The ESP states, "The proposed causeway and potential new transmission line are the major off-site new plant elements."

Comment

Comment 1 (above) also applies to this portion of the project. (0019-15 [Brubaker, Scott])

Comment:

7) Environmental Report, Chapter 4, Page 4.4-4,

4.4.1.1.2 Borrow Pits

The ESP states, "To the extent possible, this fill material comes from within the PSEG site boundaries. If additional off-site fill material is required, it is expected to come from existing permitted borrow areas such as those used in the construction of HCGS."

Comment

Comment 1 (above) also applies to this portion of the project. (0019-17 [Brubaker, Scott])

Response: *These comments refer to the NJDEQ's assertion that the proposed action must comply with the Federal General Conformity Act (40 CFR 93.150), which addresses air pollution emissions. The NRC will conduct a conformity determination under 40 CFR Part 93, Subpart B, outside of the NEPA process to determine whether additional mitigation is warranted. If an ESP is issued, the PSEG would be required to comply with all Federal, State, and local laws and regulations regarding air quality.*

Comment: The Division of Land Use Regulation has received the PSEG Early Site Permit (ESP) application and has determined that the project will require permits.

As proposed, the project will require a CAFRA Individual Permit, Coastal Wetlands Permit, Waterfront Development Permit and Freshwater Wetlands Individual Permit from the Division. These permits must be obtained prior to any construction activities on the site related to the project described above. The Division has issued a consistency determination for the project that was sent to PSE&G representatives on July 19, 2010. (0019-21 [Brubaker, Scott])

Response: *If an ESP is issued, PSEG would be required to obtain all necessary Federal, State, and local permits, and to comply with all Federal, State, and local laws and regulations.*

Comment: PSEG is seeking a Coastal Zone Consistency Determination from NJ as part of the ESPA process (Environmental Report, Section 1.3, page, 1.3-1). The Department's CZM review must consider the potential impacts resulting from dredging and dredged material management activities associated with the proposed project. (0020-2 [Brubaker, Scott])

Response: *Potential impacts from dredging and dredged material management will be evaluated in EIS Chapter 4, 5, and 7.*

Comment: The EIS should require clearer evaluation of PSEG's use of the Army Corps confined disposal facility, the agreement to do so, and any cumulative impacts resulting from use of the site. According to the ER 4.1-9, there will be construction laydown and related activities located in the Corps CDF site. It is unclear what long-term or permanent impacts may result, despite the site use for temporary activity. The NRC should consider these potential impacts and the full range of alternatives in its EIS. Moreover, the EIS should consider the chain reaction of environmental impacts if the CDF is used for another purpose. The NRC should also examine the mechanism by which the Army Corps is providing the use of this land and any impacts this may have on Army Corps permit reviews or regulatory processes for the Project. (0018-7 [Brown, Elizabeth])

Response: *Impacts to onsite and off-site land use will be evaluated in EIS Sections 4.1, 5.1, and 7.1.*

Comment: (1) SSAR, Section 1.2.1, page 1.2-1, para. #1 and para. #2: states that PSEG is planning to acquire 85 acres of land, located immediately north of the Hope Creek Generating Station, from the United States Army Corp of Engineers (USACE). This land is part of the Artificial Island Upland Confined Disposal Facility (CDF) used by the USACE for the disposal of sediments dredged from the Delaware River. The document also notes that the specific timing of this acquisition is not known. Paragraph #2 states that PSEG will obtain a lease on the remaining portion (~ 45 acres - see Section 1.2.2) of the upland CDF for temporary (duration unspecified) construction purposes. [Note: also see ER Sections 2.1.1, 2.2.1.1, and 2.8.1.2.]

The potential impacts of these acquisition and lease activities on the future dredged

material disposal capacity available to the USACE for deepening and maintenance dredging activities needs to be evaluated. If acquisition of/leasing this land by PSEG will result in the need for the USACE to develop additional upland CDFs to meet its dredged material disposal needs, this indirect/cumulative impact of the proposed PSEG project must be evaluated. (0020-4 [Brubaker, Scott])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange described in these comments will be evaluated in the EIS.*

Comment: (2) SSAR, Section 2.1.2.1, page 2.1-2, para. #2: indicates that the use of 146 acres of land currently owned by USACE may ultimately be controlled by PSEG. See Comment #1 - potential impacts of such PSEG use control of this land on the USACE's dredged material disposal capacity should be addressed.

(3) SSAR, Section 2.1.2.2, page 2.1-3, paras. #2 and #3: see Comments #1 and #2.

(4) Environmental Report [ER], Section 1.2.2, page 1.2-1, para. #2: see Comments #1 and #2. (0020-5 [Brubaker, Scott])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange described in these comments will be evaluated in the EIS.*

Comment: (5) ER, Table 1.3-1, page 1.3-4: use of the USACE Artificial Island CDF, and any other dredging or dredged material management activities, associated with the proposed project must be evaluated as part of the CZM Consistency, Clean Water Act Section 401, and NJ Waterfront Development Permit review processes. The NJDEP Office of Dredging and Sediment Technology (Site Remediation Program) will be the NJDEP lead on such evaluations. (0020-6 [Brubaker, Scott])

Response: *Issues related to land use, including the proposed action's consistency with New Jersey's Coastal Zone Management and Waterfront Development Permit programs, will be addressed in EIS Sections 2.2, 4.1, 5.1, and 7.1.*

Comment: (7) ER, Section, 4.1.1.1, page 4.1-4, para. #2: states that PSEG use of 45 acres of the USACE Artificial Island Upland CDF will not impact the use of the remaining portion of the facility. Additional evaluation is needed to verify this statement. (0020-7 [Brubaker, Scott])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application will be evaluated in the EIS.*

Comment: (9) ER, Section 4.2.1.1.4, page 4.2-5: briefly describes construction and dredging activities along the Delaware River shoreline. A total area of 92 acres - approximately 590,000 CY of sediment - is proposed to be dredged. The document concludes that impacts associated with dredging are small. However, much more work is

needed to comprehensively evaluate the potential impacts resulting from dredging and dredged material management activities - see Comment #8. (0020-11 [Brubaker, Scott])

Comment: (11) ER, Section 4.3.1, page 4.3-1, para. #5: references a permitted disposal facility on the PSEG site [that] is used for disposal of materials dredged from the intake structures ... Is this referring to an existing dredged material upland CDF on the PSEG property? If so, this facility should be identified in an appropriate figure and described in more detail. [Note: also see Sections 2.3.1.1, 2.4.1.3.4, and 2.4.2.1.1] (0020-16 [Brubaker, Scott])

Comment: (12) ER, Section 4.3.2.3, page 4.3-19, para. #3: see Comment #9. The ~590,000 CY of sediments to be dredged have not been tested/evaluated, nor has a disposal site been selected. (0020-18 [Brubaker, Scott])

Comment: (8) ER Section 4.1.2.2, page 4.1-7: indicates that dredged material from the USACE Artificial Island CDF and from dredging activities associated with the intake and barge facility areas would be used as fill material on-site.

At a May 9, 2010 meeting with the NJDEP, PSEG representatives indicated that dredging of ~975,000 cubic yards of sediments from the Delaware River would be needed to support the project - this has apparently been reduced to ~ 590,000 CY (see Comment #9). All dredging and dredged material management activities associated with the construction of the proposed project must be described and comprehensively evaluated. This would include testing of dredged material consistent with the requirements of the 1997 NJDEP Dredging Technical Manual. The documents submitted in support of the ESPA barely discuss dredging and dredged material aspects of the proposed project. Section 2.3.1 of the Environmental Report only briefly summarizes some Delaware River sediment samples collected in the vicinity of the project site and subjected only to grain size analyses.

Dredging and dredged material management activities will also require a variety of permits from the NJDEP, including a CZM Consistency Determination. The use of any dredged material as on-site fill - including material excavated from the USACE Artificial Island Upland CDF - will require an Acceptable Use Determination from the Department.

At the May 9, 2010 meeting, it was also stated that construction of a new dredged material upland CDF on the PSEG property may be needed. If still needed, the potential impacts of the construction and use of such a facility must also be comprehensively evaluated and approved by the Department, consistent with the requirements specified in the 1997 NJDEP Dredging Technical Manual. (0020-8 [Brubaker, Scott])

Response: *Impacts to land use associated with dredging and the management of dredged material will be evaluated in EIS Sections 4.1, 5.1, and 7.1. In addition, the EIS (Chapter 2 and 3) will provide figures of the proposed PSEG ESP site layout and supporting structures.*

Comment: (16) ER, Section 2.8.1.2, page 2.8-3, para. #2: delegates the evaluation of the potential environmental impacts of the transfer of a portion of the USACE Artificial Island Upland CDF to PSEG to a future federal review process. As noted in this paragraph, this transfer is expected to be a relevant factor to the overall nature and

composition of impacts associated with the construction and operation of the new plant. Therefore, the impacts of this proposed land transfer should be evaluated as part of the ESPA process. Also see Comment B and Comments #1, #2, and #7. (0020-25 [Brubaker, Scott])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange described in these comments will be evaluated in the EIS.*

Comment: The Army Corps of Engineers and PSEG must consider an alternative to the land swap, such as using the existing road to Artificial Island, instead of creating a second road if, and when, a nuclear facility is permitted. In our view the existing access road should be sufficient. Issues associated with new spoil disposal site are, as yet, unknown, as the sites under consideration are unknown. But there are likely to be issues, considering the Army Corps of Engineers for riverfront lands. (0001-19-9 [Blake, Matt])

Response: *Impacts to land use associated with the proposed causeway and the management of dredged material will be evaluated in EIS Sections 4.1, 5.1, and 7.1.*

Comment: Although the existing PSEG nuclear complex is an ideal location for an additional unit, because all of the important conveyance systems are in place, and those will not have to be developed, such as they would if it was 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. (0001-8-12 [Molzahn, Robert])

Response: *Impacts to land use associated with the proposed causeway will be evaluated in EIS Sections 4.1, 5.1, and 7.1.*

Comment: The undersigned groups of the South Jersey Bayshore Coalition are writing with concerns about a potential land swap in the Lower Alloways Creek area of New Jersey. It appears that the Philadelphia District of the US Army Corps of Engineers is in negotiations with PSEG regarding a land swap of 84 acres. PSEG is seeking to secure title to 84 acres on Artificial Island from the Army Corps for the purposes of constructing a new nuclear power plant, (Salem 4). PSEG has submitted application materials to the Nuclear Regulatory Commission (NRC) demonstrating their intent to build a 4th nuclear plant at the Salem-Hope Creek site. In exchange for these 84 acres, the Army Corps is asking that PSEG identify and transfer ownership to the Army Corps of another 84 acres, yet to be determined, that the Army Corps would use as a dredge spoil disposal site for its projects.

We believe that negotiating and undertaking the land swap for the purposes of allowing the construction of Salem 4 by PSEG on this location and identifying a new location to be used for Army Corps spoils disposal, is the undertaking of a new activity(ies) and project(s) that are being assisted, regulated; and/or approved by the Army Corps, a federal agency.

In this process, it is likely that the Army Corps is and/or will be preparing and adopting plans and documents that would encourage, support and guide the selection of the Artificial Island location as the preferred alternative for construction of a new nuclear facility in the region, i.e. Salem 4. We understand that through this process the Army Corps will necessarily also be identifying, pursuing, planning and/or using (including adopting plans and documents) a new location for a federal confined disposal facility for dredge spoils.

It is clear the land swap is intended to result in the construction of Salem 4 on Artificial Island. The Army Corps' affirmative action to remove the impediment of federal ownership of the lands PSEG desires for this purpose, to decide to negotiate a land swap, and to take actions to accomplish this negotiation, all for the purposes of constructing Salem 4 in this location, is a major federal action that will affect the human environment and therefore is subject to NEPA.

Additionally, pursuing the land swap is for the purposes of identifying, securing and utilizing a new location for a federal confined disposal facility that will receive dredge spoils from the Delaware River and/or other Army Corps projects. This too is a major federal action that will affect the human environment and therefore is subject to NEPA.

In our view, the Army Corps is undertaking a series of systematic and connected agency steps in order to accomplish the goals of allowing construction of Salem 4 on Artificial Island and utilizing a new location for purposes of dredge spoil disposal for Army Corps projects. Therefore, it is required that before engaging in the negotiation and implementation of this action the Army Corps must prepare an Environmental Assessment (EA). And we would suggest, considering the use to be made of this land, it is most probable that an EA will and should require completion of a full Environmental Impact Study Statement. (EIS). (0003-9 [Batty, Sandy] [Dillingham, Tim] [Galetto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Response: *Potential impacts to land use associated with the proposed land exchange and the management of dredged material will be evaluated in EIS Sections 4.1, 5.1, and 7.1.*

Comment: The Army Corps and PSEG must consider an alternative to the land swap, such as using the existing access road to Artificial Island instead of creating a second road, if and when a new nuclear facility is permitted. This would avoid destruction of wetlands and obviate the need for a new dredge disposal site. In our view, the existing access road should be sufficient and no additional destruction of wetlands should be permitted at the site. Issues associated with a new spoil disposal site are as yet unknown as the sites under consideration are unknown. But there are likely to be issues, considering the Army Corps' preference for riverfront lands. (0003-10 [Batty, Sandy] [Dillingham, Tim] [Galetto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Response: *Impacts to land use associated with the proposed causeway and the management of dredged material will be evaluated in EIS Sections 4.1, 5.1, and 7.1. In addition, the U.S. Army Corps of Engineers-Philadelphia District will consider impacts associated with the land swapping action as part of a separate environmental review.*

2.5 Comments Concerning Land Use - Transmission Lines

Comment: There are two Land and Water Conservation Fund (LWCF) sites within a 6-mile radius of the proposed project located in Delaware. It does not appear that the project will directly affect the Delaware LWCF sites. However, if new transmission lines were to cross the river, they could potentially impact these LWCF sites, depending upon placement. See the attached map for locations of the LWCF properties within the 6-mile radius of the proposal. (0017-1 [McConaghie, Jennifer])

Response: *Potential impacts to off-site land use, including impacts from transmission lines, will be evaluated in EIS Sections 4.1, 5.1, and 7.1.*

Comment: 13) Environmental Report, Chapter 5, Page 5.6-1

5.6.1 Terrestrial Ecosystems

The ESP states, "Transmission needs for the new plant include two or three new on-site transmissions lines crossing between two proposed switchyards on the PSEG Site and a potential off-site transmission line."

Comment

Comment 1 (above) also applies to this portion of the project.

14) Environmental Report, Chapter 10, Page 10.1-5 Table 10.1-1 Construction-Related Unavoidable Adverse Environmental Impacts

Table 10.1-1 of the ESP indicates that the adverse land use impacts include construction of the new plant and causeway which will impact 500 acres of predominantly disturbed or otherwise degraded land. The mitigation measures in Table 10.1-1 states that construction activities will comply with all relevant federal, state, and local regulatory requirements, including BMPs and stormwater management plans to control erosion and runoff.

Comment

Comment 1 (above) also applies to this portion of the project. Please see comment 1 for a description of one of the Federal regulations that is applicable to this project. (0019-31 [Brubaker, Scott])

Response: *Impacts to land use associated with the proposed action will be evaluated in EIS Sections 4.1, 5.1, and 7.1.*

2.6 Comments Concerning Geology

Comment: Much of the needed science for the ESP should be at hand since the new station is being sited adjacent to Hope Creek and Salem Creek generation stations; their track record appears to be good, the new site will share the same geology, use of in place dredge spoils constituting all soils of the area-thus, artificial Island. (0008-3 [Lacandro, Roger])

Response: *The geology of the site will be discussed in EIS Section 2.1-Site Location and described in detail in EIS Section 2.8-Geology.*

Comment: And, you know, that is also why it is a very bad location. Plus the facility is built on mud. It is river mud that the facility is built on. The three existing facilities have pylons that go down, like, 70 feet. But they still don't hit bedrock. So the new facility will probably be built the same, on mud. Mud has a tendency to sink. It is not a stable foundation. The bedrock is much further below. They just stopped trying to reach bedrock. Will the new facility be based in bedrock, to make it more stable? That is a question that I think the Commission should make part of their review. And then, also, the problem with mud, and building a facility on it, is problem with earthquakes. And what happens is if you have buildings on a soft ground, like mud, you get liquefaction - that is the term that is used. You get the vibration from the earthquake. The earthquake shaking is magnified, by the mud, which shakes. A classic example is the earthquake in Mexico City, about 10 or 15 years ago. It was a mild level, Richter scale event. But because it was located in a valley, which was previously marshland, located on mud, the whole area beneath Mexico City vibrated. So the effect of damage was amplified, even greater. You have this same situation, there, on the mud at Salem Nuclear Facility. You know, who knows when an earthquake is coming. But that, also, needs to be evaluated. So I feel it is, you know, one of the worst locations for an existing facility, as well as adding a new one. (0002-6-7 [Schneider, Richard])

Response: *The geology of the site will be discussed in the EIS Section 2.8-Geology and Section 3.2.2-Structures with a Major Environmental Interface. Safety related issues such as foundational stability and the impact of earthquakes on the plant will be evaluated as part of the Safety Evaluation Report.*

2.7 Comments Concerning Hydrology - Surface Water

Comment: (8) ER Section 4.1.2.2, page 4.1-7: indicates that dredged material from the USACE Artificial Island CDF and from dredging activities associated with the intake and barge facility areas would be used as fill material on-site.

At a May 9, 2010 meeting with the NJDEP, PSEG representatives indicated that dredging of ~975,000 cubic yards of sediments from the Delaware River would be needed to support the project - this has apparently been reduced to ~ 590,000 CY (see Comment #9). All dredging and dredged material management activities associated with the construction of the proposed project must be described and comprehensively evaluated. This would include testing of dredged material consistent with the requirements of the 1997 NJDEP Dredging Technical Manual. The documents submitted in support of the ESPA barely discuss dredging and dredged material aspects of the proposed project. Section 2.3.1 of the Environmental Report only briefly summarizes

some Delaware River sediment samples collected in the vicinity of the project site and subjected only to grain size analyses.

Dredging and dredged material management activities will also require a variety of permits from the NJDEP, including a CZM Consistency Determination. The use of any dredged material as on-site fill - including material excavated from the USACE Artificial Island Upland CDF - will require an Acceptable Use Determination from the Department.

At the May 9, 2010 meeting, it was also stated that construction of a new dredged material upland CDF on the PSEG property may be needed. If still needed, the potential impacts of the construction and use of such a facility must also be comprehensively evaluated and approved by the Department, consistent with the requirements specified in the 1997 NJDEP Dredging Technical Manual. (0020-10 [Brubaker, Scott])

Response: *Potential impacts to surface water and groundwater quality as a result of construction, including dredging, will be discussed in EIS Sections 4.2.3.1 Surface Water Quality Impacts and 4.2.3.2 Groundwater Quality Impacts.*

Comment: General Comments

The permittee included various estimates of projected impingement and entrainment values for the proposed system. Impingement and entrainment can be assessed by a wide variety of tools and it is not possible to comment on the accuracy of these estimates without understanding more regarding the underlying assumptions. However, as noted above, the Department supports the use of closed cycle cooling as best technology available to minimize water withdrawal rates.

The Department recognizes that the proposed closed cycle cooling system using cooling towers and a low intake velocity of less than 0.5 feet per second constitutes the best technology available for minimizing impingement and entrainment impacts under Section 316(b) of the Clean Water Act.

Specific Comments

The Department takes issue with the following statement on page 5.2-7:

"NJDEP has issued a discharge permit for the SGS (reference 5.2-7) and determined that the SGSs thermal plume, including the maximum temperature, does not impact the balanced indigenous community"

Rather, the Department stated the following in its June 29, 2001 NJPDES permit for PSEG-Salem:

"Therefore, based on a review of the current data and modeling pertaining to the thermal plume as well as the biothermal assessment, the Department has determined that a variance under Section 316(a) is warranted. A thermal discharge at the Station, which does not exceed a maximum of 1150 F (46.10 C) is expected to assure the protection and propagation of the balanced indigenous population. These effluent limitations for temperature are set forth in Part III-B/C as described previously. In addition, effluent limitations are also retained for heat in this proposed renewal permit (applied to Units 1 and 2)."

Specifically, the Department did not include a statement in said permit that PSEG does not impact the balanced indigenous community. (0019-26 [Brubaker, Scott])

Response: *Water quality and aquatic ecology impacts as a result of plant operations at the proposed units will be discussed in Section 3.4.2.1 - Intakes, Discharges, Cooling Towers; 5.2.2 - Water Use Impacts; Section 5.2.2.1 - Surface Water Impacts; and Section 5.3.2 - Aquatic Impacts Related to Operation.*

Comment: The Bureau of Water Allocation (BW A) has reviewed the Environmental Report (ER) submitted with PSE&G Early Site Permit (ESP) application for a proposed nuclear electric generating plant located adjacent to the existing Hope Creek Generating Station (HCGS) and Salem Generating Station, Units 1 and 2 (SGS) in Lower Alloways Creek Township, Salem County, New Jersey (NJ).

A specific reactor technology has not yet been selected. However, the design characteristics of four reactor technologies under consideration were used to establish a plant parameter envelope (PPE) (Site Safety Analysis Report [SSAR] Section 1.3). While issuance of the ESP does not authorize construction and operation of any new nuclear power units, this ER analyzes the environmental impacts that could result from the construction and operation of one or two new nuclear power units at the PSEG site. These impacts are analyzed to determine if the site is suitable for the addition of the new nuclear plant, and whether there is an alternative site that is environmentally preferable to the proposed site.

PSEG has not yet selected a specific reactor(s) technology. Four different technologies are under consideration including:

- Advanced Passive 1000 (AP1000)
- U.S. Evolutionary Power Reactor (U.S. EPR)
- Advanced Boiling Water Reactor (ABWR)
- U.S. Advanced Pressurized Water Reactor (US-APWR)

This ESP application uses a PPE approach that encompasses all four reactor technologies (SSAR Section 1.3). The ESP analyzes the environmental impacts of the four reactor technologies using either one unit (U.S. EPR, ABWR, or U.S. APWR) or two units (AP 1000) at the PSEG site. Since a specific reactor technology has not been selected, the environmental impact analyses are based on reactor bounding conditions derived from detailed reactor information supplied by the vendors. The total bounding PPE value for the new plant is 6830 gross megawatts thermal (MWt) (SSAR Table 1.3-1 Item 17.3) and 2200 MWe net. Section 3.2, Reactor Power Conversion System, provides additional information on these reactor technologies.

The new plant uses a recirculating (closed-cycle) cooling water system that includes natural draft, mechanical, or fan-assisted natural draft cooling towers. A new shoreline intake structure supplies makeup water from the Delaware River to the new plant. A new discharge structure conveys cooling tower blowdown to the Delaware River in conformance with New Jersey Pollutant Discharge Elimination System (NJPDES) permit requirements. Section 3.4, Cooling System, provides additional detail on the intake, discharge, and cooling tower components of the plant cooling system.

In accordance with Water Supply Management Act, N.I.S.A. 58:1A-I et seq. and its supporting regulations N.I.A.C. 7:19-1 et seq. the following will be required from BWA:

A Water Allocation Temporary Dewatering Permit will be required for construction dewatering where the dewatering rate is 100,000 gallons per day for more than 30 days in a consecutive 365day period. If the dewatering period is 30 days or less, a Permit by Rule will suffice. A Dewatering Permit by Rule may be applicable if the dewatering occurs from within a coffer dam.

The current Water Allocation Permit, No. 2216P requires modification to allow additional ground water use for the new plant. Included with such a request for major modification of the Water Allocation Permit will be a Hydrogeologic Report prepared in accordance with GSR-29 Guidelines pursuant to N.I.A.C. 7:19-22(c).

The site is located in the Salem/Gloucester County USGS Study Area south of Critical Area No.2. Increases in withdrawals from the PRM Aquifer are being reviewed by BWA due to concerns with safe yield and salt water intrusion. The results of t (0019-24 [Brubaker, Scott])

Response: *The EIS will identify and in some instances discuss all the appropriate Federal, state, and local authorizations and consultations an applicant must obtain before construction and operation can take place. These permits and approvals will be will be discuss in Chapter 1 and Appendix H of the EIS.*

Comment: Increases in turbidity through the resuspension of sediments into the water column from dredging and port operations will degrade water quality, lower dissolved oxygen levels, and potentially release chemical contaminants bound to the fine-grained estuarine/marine sediments. Sedimentation and wave patterns in the area may be altered as a result of vessels entering and exiting the proposed mooring area also resulting in increased turbidity. Suspended sediments mask pheromones used by migratory fishes, and can smother immobile benthic organisms and demersal newly-settle juvenile fish (Auld and Schubel 1978; Breitburg 1988; Newcombe and MacDonald 1991; Burton 1993; Nelson and Wheeler 1997). As supported above, the project area provides important habitat for striped bass including valuable spawning grounds and nursery habitat. Increases in turbidity will adversely affect striped bass larvae's ability to capture prey (Fay et al. 1983 in Able and Fahay 1998). The decrease in water circulation can also adversely affect striped bass survival as strong current is needed to keep the eggs suspended in the water column and prevent them from being smothered by silt (Bigelow and Schroeder 1953). (0022-3 [Gorski, Stanley])

Response: *Potential construction impacts as a result of dredging including lowered dissolved oxygen levels, potential releases of chemical contaminants bound to fine-grained sediment, and suspended sediments will be discussed in Sections 4.2, 4.2.3.1, and 4.2.4 of the EIS. Impacts to aquatic fauna will be discussed in Section 4.3.2*

Comment: Impacts to the quality of surface waters and the alteration of river bottom sediments within the Delaware River and adjacent marsh creeks are expected as a result of the construction and operation of the proposed facility, and will include those associated with the development of shoreline features (intake structure, barge facility,

heavy haul road), dredging of sediments from the near-shore area of the Delaware River to provide for water intake and discharge and to provide adequate draft for barge access during construction, and the filling of 9.5 acres of coastal tidal wetlands and shallow open water areas. (0022-1 [Gorski, Stanley])

Response: *Potential impacts to surface water quality as a result of construction and operation, including dredging, will be discussed in EIS Sections 4.2.3.1 and 5.2.3.1, respectively. In addition, cumulative impacts to surface water quality will be discussed in Section 7.2.1.*

Comment: (17) Section 5.1.1.1, page 5.1-1, para. #2: briefly discusses dredging activities that may be needed during operation of the proposed facility, and concludes that - since the dredged material will be disposed of in approved upland areas - any resulting impacts will be small. See Comments #8 and #9. [Also see Sections 5.2.1.2 and 10.5.2.1] (0020-27 [Brubaker, Scott])

Response: *Potential impacts to surface water quality as a result of construction and operation, including dredging, will be discussed in EIS Sections 4.2.3.1 and 5.2.3.1, respectively. In addition, cumulative impacts to surface water quality will be discussed in Section 7.2.1.*

Comment: (15) ER, Table 4.6-1: regarding potential measures to mitigate potential water quality and aquatic ecosystem impacts resulting from dredging and dredged material management activities - see Comments #9 and #14. (0020-24 [Brubaker, Scott])

Response: *Mitigation of water quality impacts, proposed by the applicant, as a result of construction and operation, will be discussed in Sections 4.2.5 and 5.2.5 of the EIS.*

Comment: ER Page 24 of 136-Hydrological Alterations:

"Development of these areas resulting in the loss of the artificial ponds will result in localized runoff that is collected in engineered detention basins, and conveyed to the Delaware River."

Comment: The NJBNE is requesting split samples of surface water from any new engineered basin as part of the pre-operational stage. Initial sampling provides a baseline history prior to plant operation.

In addition, the licensee should investigate whether the retention basins (being added as monitoring locations for non-radiological measurements such as Total Suspended Solids, Total Organic Compounds, pH, etc) need to be added to the Department's NJPDES Permit for Discharge to Surface Water. (0019-2 [Brubaker, Scott])

Response: *Potential impacts to surface water quality as a result of construction and operation, including hydrological alterations, will be discussed in EIS Sections 4.2.4, 4.3.1, 5.2.1, and 5.2.1. In addition, the EIS will identify and in some instances discuss all the appropriate Federal, state, and local authorizations and consultations an applicant must obtain before construction and operation can take place. These permits and approvals will be will be discuss in Chapter 1 and Appendix H of the EIS.*

Comment: The impact of the Project, standing alone, as well as that of the cumulative land-use and development patterns in Salem County and the surrounding area, upon stormwater pollution should also be considered in depth in the EIS. The ER does not adequately address this issue. (0018-12 [Brown, Elizabeth])

Response: *The potential impacts of stormwater pollution resulting from construction (Section 4.2.3) and operation (Section 5.2.3) will be addressed in the EIS. Cumulative impacts of the plant on surface water will be addressed in Section 7.2.2.1 of the EIS.*

Comment: (13) ER, Section 4.3.2.3, page 4.3-19, para. #3: concludes that impacts associated with dredging activities are small; see Comment #9. (0020-20 [Brubaker, Scott])

Comment: (10) ER, Section 4.2.3.1, page 4.2-13, para #2: states that "Based on the findings of the USACE's Delaware River main channel deepening project Environmental Assessment, dredging is not expected to result in degradation of water quality." The evaluation of potential impacts presented in the referenced Environmental Assessment are of little relevance to the evaluation of the potential impacts of dredging and dredged material management activities associated with the proposed PSEG project. (0020-15 [Brubaker, Scott])

Comment: (9) ER, Section 4.2.1.1.4, page 4.2-5: briefly describes construction and dredging activities along the Delaware River shoreline. A total area of 92 acres - approximately 590,000 CY of sediment - is proposed to be dredged. The document concludes that impacts associated with dredging are small. However, much more work is needed to comprehensively evaluate the potential impacts resulting from dredging and dredged material management activities - see Comment #8. (0020-13 [Brubaker, Scott])

Response: *Potential impacts to surface water quality as a result of construction and operation, including dredging, will be discussed in EIS Sections 4.2.4, 4.3.1, 5.2.1, and 5.2.1. In addition, cumulative impacts to surface water use will be discussed in Section 7.2.1.1.*

Comment: The ER acknowledges that hydrogeological impacts will result from dredging near-shore areas of the Delaware River for water intake, water discharge, and barge access areas (modifying the existing HCGS barge slip.) DRN has long advocated for comprehensive environmental review of dredging projects that will result in significant harm to the Delaware River's environmental values through dredging and filling, blasting, and degraded water quality. Section 4.2.1.1.4 of PSEG's ER describes the proposed dredging as follows:

"Alteration of surface waters within the Delaware River include those associated with the development of shoreline features (intake structure, barge facility, heavy haul road), and dredging (Figure 3.1-2). Constructed features along the Delaware River shoreline require the filling of 9.5 ac. of coastal wetlands and shallow open water areas (Subsection 4.3.2.3). Construction of these facilities includes the installation of sheet piling, bulkheads, and backfilling to create the constructed project utilization area. Shorelines will be stabilized and protected from erosion by the use of hardened bank applications (concrete, riprap, etc.). Consequently, in consideration of the small area of river to be modified relative to the size of the Delaware River, and based on the use of hardened bank treatments that minimize shoreline erosion, potential construction related

impacts to the Delaware River are SMALL, but warrant mitigation in accordance with the NJDEP and USACE requirements.

Sediments from the near-shore area of the Delaware River Estuary will be dredged to provide for water intake and discharge and to provide adequate draft for barge access during construction. Construction of the new barge unloading facility and mooring area will require lowering of the river bottom an average of 4.5 ft. over an area of 61 ac. (dredging of 440,000 cubic yards of sediment). Barge mooring caissons will be constructed. Each caisson is 20 ft. in diameter resulting in the loss of 0.05 ac. of river bottom habitat for seven caissons. Construction of the new intake structure requires lowering the river bottom an average of 4.5 ft. over an area of 31-ac. (dredging of 150,000 cubic yards of sediment).

The total area to be dredged is 92 ac., extending riverward 1700 ft. from the shoreline, or 13 percent of the 2.5-mi. river width at this location. Dredging may include both mechanical and hydraulic dredging methods. Dredged material removed as part of this construction activity will be transported to and placed in an on-site or other approved upland disposal facility. The potential impacts of the dredging activities on water quality are described in Subsection 4.2.3.1.

Potential impacts to benthic organisms are discussed in Section 4.3. BMPs for dredging implemented during this activity will comply with requirements of the USACE Section 10/404 and NJDEP permits. Hydrologic alterations associated with this activity include localized changes in flow patterns along the river bottom due to differences in bottom contours at the edges of the dredge zone. From a river flow cross section perspective, the dredged area for barge access would add a total of 7500 square feet (sq. ft.) to an existing cross section of 220,000 sq. ft. (low water) to 270,000 sq. ft. (high water), or a localized increase in flow area that is in the range of 2.5 to 3.5 percent. Accordingly, the average velocity within the dredged area is reduced in proportion to the increase in cross sectional area. However, these small scale alterations in river flow are minimal in the context of the large size of the Delaware River and regular tidal flows. In consideration of the magnitude of the tidal flow and the size of the Delaware River, potential impacts associated with dredging are SMALL."

Clearly, the EIS will need to address the impact of dredging and related shoreline disturbance and take all viable alternatives into account. (0018-9 [Brown, Elizabeth])

Response: *Potential impacts to surface water quality as a result of construction and operation, including dredging, will be discussed in EIS Sections 4.2.4, 4.3.1, 5.2.1, and 5.2.1. In addition, cumulative impacts to surface water use will be discussed in Section 7.2.1.1. The part of the comment dealing with land use and potential impacts to terrestrial resources will be discussed in Sections 4.1.1 and 4.3.1.1, respectively. Finally, potential impacts to aquatic organisms as a result of construction and operation can be in Section 4.3.2 and 5.3.2.*

Comment: Therefore, DRN urges NRC to review certain issues in more detail, including: clearer evaluation of PSEG's use of the Army Corps confined disposal facility, and cumulative impacts resulting from use of that site; water impacts including dredging and construction impacts; filling of wetlands; floodplain impacts; habitat impacts and impacts to species, especially Atlantic sturgeon; and impacts and evaluation of alternatives for cooling systems. (0018-2 [Brown, Elizabeth])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange and relocation of the confined disposal facility, will be discussed in the EIS. Impacts as a result of construction including potential impacts to wetlands and habitat can be found in Chapter 4. Finally, potential cumulative impacts as noted in the comment will be evaluated in Chapter 7 of the EIS.*

Comment: Finally, NRC must evaluate the impacts and all viable alternatives for cooling. DRN notes that EPA's Phase I regulations for new sources require closed-cycle cooling, which the new plant will have. 68 Fed. Reg. 36749-36755 (June 19, 2003). DRN has long advocated for closed-cycle cooling at the existing Salem facility. However, that does not mean that closed-cycle cooling is without impacts, or that one size fits all when selecting the specific cooling technology. According to the ER "Compared with a once-through cooling system, a closed cycle cooling system substantially reduces the volume of water diverted for cooling but increases consumptive water use as a result of evaporation loss in the cooling tower." (0018-15 [Brown, Elizabeth])

Response: *Consumptive water use potential operational impacts will be discussed in Sections 5.2 and 7.2 of the EIS. Ecological impacts as result of plant operation will be discussed in Section 5.3.2. Potential thermal impacts, including to water chemistry, will be discussed in Section 5.2.4. Alternative cooling system designs will be discussed in Chapter 9.*

Comment: In addition to the steps being taken to protect the wetlands impacted by construction, the aquatic impacts of the proposed facility will be limited by the use of a closed cycle cooling system. Compared to a once-through system, these cooling towers will divert much less water for cooling. Projected maximum diversion for the new facility is less than 4% of the current amount used by the Salem Generating Station and is a very small fraction the total volume of the Delaware River flow. As a result, impingement of fish populations will be a small fraction--less than 3% of the current level of the Salem station.

Because of the closed cooling system, we would also expect the thermal plume of the new plant to be localized and relatively small, with no significant impact on the local aquatic biota. The conclusion is based on past studies of the impact of thermal plumes from the existing PSEG generating plants, the expected operation of the proposed cooling structures, and our understanding of the ecology of aquatic species in the vicinity of the plant. (0014-11 [Velinsky, David])

Response: *Consumptive water use potential operational impacts will be discussed in Sections 5.2 and 7.2 of the EIS. Ecological impacts as result of plant operation will be discussed in Section 5.3.2. Potential thermal impacts will be discussed in Section 5.2.4.*

Comment: 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. (0011-1 [Molzahn, Robert])

Response: *Consumptive water use potential operational impacts will be discussed in Sections 5.2 and 7.2 of the EIS.*

Comment: 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. (0011-10 [Molzahn, Robert])

Comment: Consumptive water use is an important issue on the Delaware River basin, especially during drought periods. Although the proposed plant is located in the salient estuary, fresh water will still be evaporated by the cooling towers and, thereby, consumed. During declared drought emergency the fresh water consumed should be replaced, at an appropriate ratio, by using water release from the Merrill Creek Reservoir, near Phillipsburg, New Jersey. PSEG, along with several other electric generating companies, is a co-owner of Merrill Creek. Water release from Merril Creek helps in keeping the salt line, which is a 250 isoclore 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. (0001-8-9 [Molzahn, Robert])

Comment: In reviewing the PSEG Early Site Permit application, and Environmental Report filed on May 25th, 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 under Section 316B of the Clean Water Act. The cooling tower blow-down discharge should have little impact on the Delaware River, at this location, or significantly elevate river water temperatures. (0001-8-8 [Molzahn, Robert])

Response: *Consumptive water use potential operational impacts will be discussed in Sections 5.2 and 7.2 of the EIS. Potential thermal impacts will be discussed in Section 5.2.4. Additionally, mitigative measures proposed by the applicant, if needed will be identified in the section titled Potential Mitigation Measures for Operation-Related Water Impacts.*

Comment: With the new facility a good thing is, if it is built, that it would have a closed loop cooling system, which would greatly reduce the amount of water needed to cool the facility. A closed loop cooling system reduces the water take, compared to an open loop system, by 90 to 95 percent. So however, an average nuclear facility draws in, an open loop system, like a billion gallons of water a day, over a billion. So even with the closed loop, you are still talking about 50 million to 100 million of gallons a day. (0002-6-9 [Schneider, Richard])

Response: *Consumptive water use potential operational impacts will be discussed in Sections 5.2 and 7.2 of the EIS.*

Comment: In addition to the steps being taken to protect wetlands impacted by the construction, the aquatic impacts of the proposed facility will be limited by the use of a closed-cycle cooling system. Compared to the once through system, these cooling towers will divert much less water for cooling. Projected maximum diversion, for the new facility, is less than four percent, depending on the type of facility of the current use by Salem, and is less than .05 percent of the total volume of the Delaware flow. (0001-4-7 [Velinsky, David])

Response: *Wetland protection during construction will be discussed in Sections 4.2.1 - Hydrological Alterations, 4.2.5 - Potential Mitigation Measures for Construction-Related Water Impacts, and 4.3.1 - Terrestrial and Wetland Impacts. Consumptive water use for plant operational will be discussed in Sections 5.2 and 7.2 of the EIS.*

Comment: Finally, although this does not relate directly to the environmental impacts of the new plant, I would add these thoughts on the prospects of global climate change. As an environmental scientist, I believe it is no exaggeration to say that climate change represents the singular environmental threat of the coming century. Even for the development of the new plant, the reality of sea level rise is a factor that must be and is being taken into account. (0014-13, (0001-4-9 [Velinsky, David])

Response: *Environmental impacts resulting from construction and operation of the proposed plant, including greenhouse gas emissions will be addressed in the EIS Chapters 4, 5, and 7. Greenhouse gas emissions associated with the fuel cycle will be presented in Chapter 6. Potential impacts of flooding and sea level rise will be evaluated in the safety evaluation report.*

Comment: 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. (0011-14 [Molzahn, Robert])

Comment: My questions would include: concern for extreme floods and adequate entrance and egress systems, maintaining a good, continuous dialog with the community and an insistence that only the best science be incorporated in planning and construction. (0008-8 [Lacandro, Roger])

Comment: The proposed construction of Salem 4 on Artificial Island would have several significant environmental impacts that the Corps must consider, including, but not limited to:

- Increasing level of flooding will take place on the island in the coming 50 and 100 year time frames. The impact of sea level rise must be considered. Development of an additional nuclear plant puts the facility, the workers, and the nuclear materials to be stored on the site at risk of harm and, in the case of the nuclear materials, at risk of release into the River and environment. (0003-2 [Batty, Sandy] [Dillingham, Tim] [Galletto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O’Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Comment: The other potential impact that has to be considered here is associated with sea level rise. This is occurring, it is not disputed. Certainly in areas of New Jersey this is

expected to be greater than in other areas of the country. This is not a game stopper here. One of the things I do at Rutgers is work with coastal communities on developing adaptation strategies to sea level rise. And I'm confident that the new facility will factor into account strategies to deal with a rising sea level along the New Jersey coast. (0002-4-4 [DeLuca, Mike])

Comment: My questions would include concern for extreme floods, which may be different now than when the original plants were put into existence, adequate entrance and egress systems, maintaining a good, continuous dialogue with the community. (0001-9-7 [Lacandro, Roger])

Comment: Sea level rise and storm surge are also a concern of 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 conform that they are protected for sea level rise. (0001-8-13 [Molzahn, Robert])

Comment: The proposed construction of Salem 4 on Artificial Island would have several significant and environmental impacts that the Corps must consider including, but not limited to, increased level of flooding, that will take place on the island in the coming 50 and 100 year time frame. The impact of sea level rise must be considered. Development of an additional nuclear plant puts the facility, the workers, and the nuclear materials to be stored on this site, at risk of harm. And in the case of nuclear materials, at risk of release into the river, and environment. (0001-19-2 [Blake, Matt])

Response: *The EIS will evaluate the construction and operational impacts of the proposed plant on the existing environment. Potential impacts of flooding and sea level rise will be evaluated in the safety evaluation report.*

2.8 Comments Concerning Hydrology - Groundwater

Comment: As it relates to the ESP and proposed additional unit at Hope Creek, how does the trend of declining water levels in the upper PRM affect the potential water use with the proposed new unit? Will there need to be deeper wells in the mid-levels of the PRM? (0021-2 [Brubaker, Scott])

Response: *Water withdrawal and impacts on the aquifer will be evaluated in EIS Sections 4.2.2-Water-Use Impacts and 5.2.2.2-Groundwater-Use Impacts. The cumulative impact of site groundwater use combined with the impacts of other past, present, and reasonably foreseeable future actions affecting groundwater resources will be discussed in Section 7.2-Water Use and Quality.*

Comment: ER Page 12 of 42, Section 6 -Environmental Measurements and Monitoring Programs

6.2.2.1 Radiological Monitoring Program

"The existing PSEG REMP serves as the new plant construction/preoperational radiological monitoring program. Additional on-site thermoluminescent dosimetry (TLD) monitoring locations will be added to the north of the HCGS to support the ODCM/REMP

for the construction and preoperational period. A description of the new monitoring locations and other applicable parameters will be provided in the combined license (COL) application."

Comment: The NJBNE requests that the licensee establish a Groundwater Protection Program for the proposed site at the construction/pre-operational stage rather than waiting for the operation of the facility. During the construction phase, there will be knowledge as to where all applicable tanks and pipes are going to be located, along with buildings containing radioactive fluids and areas of further investigation for potential tritium in groundwater.
(0019-7 [Brubaker, Scott])

Response: *Potential operational impacts to groundwater quality and water monitoring will be discussed in EIS Sections 5.2.3.2-Groundwater-Quality Impacts and 5.2.4-Water Monitoring. Specific details of PSEG's radiological environmental monitoring program (REMP) will be presented in EIS Section 5.9.6-Radiological Monitoring. As required by an NRC licensing condition, the existing REMP program for the currently operating Salem and Hope Creek units will be updated by the applicant to include specific details related to monitoring of the proposed unit. Per agreement with the NRC, this program includes monitoring of groundwater, is updated once necessary facility design details are available, and must be evaluated and approved by the NRC prior to the operation of the facility. The REMP program is evaluated by NRC staff as part of the safety review process to ensure that it is adequate to monitor each onsite unit, identify potential contamination, and prevent offsite impacts.*

Comment: Environmental Report (ER) Page 13 of 136-Land Use Impacts:

"All necessary permits and authorizations will be obtained and appropriate environmental controls implemented (e.g., storm-water management systems, groundwater monitoring wells, and spill containment controls) prior to commencement of earth disturbing activities. Site preparation and construction activities affecting land use include clearing, grubbing, grading, excavating, and stockpiling of soils. Soil management is an important element of construction sequencing. Materials excavated from the power block area will be stockpiled and/or disposed of on-site, or otherwise evaluated for reuse/disposal, potentially under a beneficial use determination (BUD), per NJDEP requirements as appropriate."

Comment: The NJBNE is requesting split samples from any new groundwater monitoring wells installed in association with the new facility. The sampling of these new wells should be added to the existing licensee sampling plan and Groundwater Protection Program (GWPP). In addition, a one-time composite soil core boring sample from any new well is requested by the NJBNE. Initial sampling provides a baseline history prior to plant operation. (0019-1 [Brubaker, Scott])

Response: *Potential impacts to groundwater as a result of construction and operation of the proposed plant will be evaluated in EIS Sections 4.2.4-Water Monitoring, 5.2.4-Water Monitoring and 7.2.2 Cumulative Groundwater-Quality Impacts. The State of New Jersey would be responsible for requiring that the applicant provide any type of groundwater monitoring program samples. Such activities are not within the NRC's licensing authority.*

2.9 Comments Concerning Ecology - Terrestrial

Comment: During the re-permitting of the existing nuclear facilities at Salem, PSEG developed a bay-wide concept of mitigating the impacts of the existing cooler apparatus at those 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 attracted 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 hearing. (0001-10-4 [Applegate, Jim])

Response: *Comment noted. The NRC staff will discuss ecological impact mitigation, as necessary, in Section 5.3 of the EIS. The EIS will also include a discussion of the bay-wide approach undertaken by PSEG as part of the existing environment.*

Comment: Since then I have followed, with my students, and with great interest, what has become the largest estuarine enhancement project in the world. Without going into any details, the project has been, in my mind, a resounding success at many levels, in increasing the resource value of large acreages throughout the bay. PSEG has a solid track record in delivering on their commitment to bay-wide health. (0001-10-6 [Applegate, Jim])

Response: *Comment noted. The NRC staff will discuss PSEG's estuarine enhancement program in Section 2.4 of the EIS as part of the existing environment.*

Comment: Returning, finally, to the purpose of this hearing, should this project move forward with construction, there will be on-site habitat impacts that will be unavoidable. I urge the process to embrace the same bay-wide approach used in the estuarine enhancement program, and to be creative and aggressive, in identifying off-site mitigation opportunity. Hold PSEG's feet to the fire. History suggests that they will deliver. (0001-10-8 [Applegate, Jim])

Response: *The NRC staff will discuss on-site habitat impacts in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will be discussed, as necessary, in Section 4.3 of the EIS. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: With respect to restoration of wetlands, it has been common knowledge, for a long time, that wetlands support the production of most commercial and recreational fin fish and shellfish species, that we all enjoy eating, or capturing, or both. To the extent that you can find citations in the literature, Irland and Lacy, for example, that say 95 percent of all commercial and recreational species produced, marine species produced in the United States, require wetlands as essential habitats during their first year of life. (0001-14-1 [Weinstein, Michael])

Response: *The NRC staff will describe the existing wetlands that could be affected in Section 2.4 of the EIS.*

Comment: The company had the foresight, long before the Estuarine Restoration Act was passed, with the goal of restoring a million estuarine acres, including many wetlands, in the U.S. by the year 2010. Long before that Act was passed, and the guardian of that act became two entities, essentially, Restore America's Estuaries, a practitioner coalition nation-wide. Actually now world-wide. And the Community Restoration Center, NOAA Restoration Center, Community Based Restoration Center which has, I think, a collective budget, over the years, now exceeding 28 million dollars. Before that became in the public venue, and popular, restoring wetlands is a good thing, and we needed to know why, of course.

Long before that became the popular trend, the company PSEG had been developing this program as a cost-effective basis for offsetting the effects of the power plant, with respect to its take of fin fish and shellfish. And the goal was to produce enough wetland acreage, or to conserve and restore enough wetland acreage, to produce the number of equivalent adults that would be lost at the facility. (0001-14-3 [Weinstein, Michael])

Response: *Comment noted. The NRC staff will discuss PSEG's wetland conservation and restoration efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: We have been able to demonstrate, given the extreme variability around any mean you calculate, in these sites, in terms of processes and functions, that the 20 plus thousand acres produced a new increment of secondary production of these fin fish and shellfish that exceeded the loss, again as I said before, of equivalent adults. Also we have been able to document, everybody says phragmites is bad, and we suspected for a long time that it had to do with habitat, and other functional processes.

Some of our research has now demonstrated that a fish growing up in a phragmites dominated marsh, whatever the combination of factors is, and I should say to you, much to the company's chagrin, I was able with my colleagues to demonstrate that carbon nitrogen nutrients from phragmites is, indeed, finding its way into this fish.

But the quality of the animal, the end of the growing season, falls short of the quality of an animal in a naturally cord grass dominated marsh. In other words, they can't put down the energy reserves, for migration and overwintering, if they grow up in a phragmites marsh. (0001-14-6 [Weinstein, Michael])

Response: *Comment noted. The NRC staff will describe the existing wetlands that could be affected in Section 2.4 of the EIS. Mitigation with native plant species, as necessary, and control of invasive species (i.e., phragmites) will be discussed in Sections 4.3 and 5.3 of the EIS.*

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Response: *Comment noted. The NRC staff will describe the existing wetlands that could be affected in Section 2.4 of the EIS. Mitigation with native plant species, as necessary, and control of invasive species (i.e., phragmites) will be discussed in Sections 4.3 and 5.3 of the EIS.*

Comment: So let me close with a series of statistics, if I may. First of all, as Seagrant Director, I was able to enter into a public private partnership with the company. The company put up 750,000 dollars over five years, and we Seagrant Directors, in 11 states around the nation, matched those funds, to do some of the basic and applied research to understand what was going on, as we were restoring these sites.

One of those projects funded a young lady by the name of Kristen Solenstal at Yale University. She was the first of many people trying, with that funding, to demonstrate that the variety of phragmites that we call bad is actually an introduced variety, probably from either Asia, or Europe, or probably both.

That was part of this Marsh Ecology Research Program, or the MERP, as we called it. All of these funds were parlayed into many federal grants. For example, I have been funded by the EPA, by NOAA, several agencies within NOAA, ANS, Solestol Kennedy, I have received NSF funding. All as part of the programmatic opportunity, at the Estuary Enhancement Program created for people interested in understanding how to do this restoration, how to make it effective, and why it actually works.

Two contributions, three contributions that will be the last I say. Three contributions that we made, that come immediately to mind is, as a group, the scientists involved in the Estuary Enhancement Program developed the practitioner skills, or methods, for restoring wetlands. What kinds of criteria and metrics should you be thinking about, when you go in to restore a site? Those metrics have been fully adopted by Restore America's Estuaries, and has been published as a public document by them. We published it, of course, in the peer reviewed literature, on our own.

Secondly, one of the toughest things to do, when you are trying to look at these restored sites with respect to the returns of functions and processes, as opposed to the structure of these sites, it is relatively easy to grow grass. I apologize to my friends in the Corps. But you are the guys that told me to keep it simple, stupid. We can defend 85 percent survival after three years in court, to a wetland ecologist that means absolutely nothing, other than you are pretty good at growing grass, which I guess is not bad. (0001-14-7 [Weinstein, Michael])

Response: *Comment noted. The NRC staff will discuss PSEG's estuarine enhancement program in Section 2.4 of the EIS as part of the existing environment.*

Comment: I mention that we are able to employ new, really state of the art, modeling efforts, something called Echopath and Echosim, if any of you are familiar with it, to demonstrate, once again, that the increment of new production, one is measurable against background, and two, it is equated with the goals of the program. This is one of the most important projects with regard to coastal wetland management, and coastal management in general, that has ever been undertaken.

And I, personally, applaud the foresight of the company to do something like this, when it wasn't considered, at the time, best management practices. And whether it becomes best management practice, regulatory or law, or otherwise it clearly has been. (0001-14-9 [Weinstein, Michael])

Response: *Comment noted. The NRC staff will discuss PSEG's estuarine enhancement program in Section 2.4 of the EIS as part of the existing environment.*

Comment: Construction of a new nuclear facility and access road, at this location, will result in the damage of wetlands, and adverse effects on a variety of aquatic life, bird life, and wild life. (0001-19-3 [Blake, Matt])

Response: *The NRC staff will discuss impacts of the proposed project on aquatic and terrestrial wildlife, along with mitigation measures, as necessary, in Sections 4.3 and 5.3 of the EIS.*

Comment: The natural systems of the Delaware River and estuary are critical environments, with major significance for both regional and global biodiversity, for regional water supply, and water quality, and for supporting important environmental activities. Construction on the scale proposed by PSEG, on the Delaware coast, requires careful consideration of environmental factors. (0001-4-1 [Velinsky, David])

Response: *The NRC staff will discuss cumulative impacts of the project, including potential impacts to the Delaware River and estuary, in Section 7.3 of the EIS.*

Comment: Before addressing the new construction, I would like to point out PSEG's past efforts to mitigate the effects of its operations on the aquatic environment in the vicinity. In particular, faced with concerns of negative impacts on fisheries, by cooling water intake operations, PSEG responded with the largest private wetlands restoration project in the world.

The Estuary and Enhancement program began in 1994, and since that time has had large scale efforts to restore and preserve portions of the Delaware River estuary, in both New Jersey and Delaware. It has restored, enhanced and/or preserved more than 20,000 acres of salt marsh, and adjacent uplands to vital, healthy habitat for fish and wildlife. (0001-4-3 [Velinsky, David])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: The proposed new construction will permanently impact approximately 230 acres of wetlands. While protection of wetlands is a high national priority, the majority of

the wetlands acreage impacted by the new construction, has a degraded hydro period that is now a host of mono culture of phragmites.

An invasive reed plant, phragmites is often found in disturbed marsh areas, where plant communities, hydrology and topography have been altered. Phragmites displaces native plants, and has a negative impact on biodiversity. Targeting these degraded wetlands in close proximity of the existing facilities, will reduce the need for new infrastructure, minimizing the environmental disturbance that would result if development occurred in green field sort of sites.

Moreover, the amount of wetlands impacted represent a small fraction of the total wetland, many with higher quality functions present in the vicinity of the construction.

In addition, 85 acres of the wetland being permanently altered by the construction are located in the Army Corps of Engineers disposal facility. This has been a site for dumping of spoils from deepening of the Delaware River channel. It is surrounded by dikes, and not open to tidal influences. It is unlikely that this site supports high level wetlands functions, and utilizing it, where the permanent construction is necessary, will limit overall wetland impacts.

PSEG is making acceptable efforts to restrict impact on these wetlands, including a site plan to minimize encroachment, the use of sediment pits to stage some of the construction operations, and the use of raised causeways, rather than using fill material to carry the access road to the new site.

Where permanent disturbance to wetlands occurs, PSEG has outlined a tentative mitigation plan that would create new wetland environments, in adequate amounts, to offset any loss. We anticipate that the resources and expertise in the development of the Estuary Enhancement Program will provide a very strong foundation for the mitigation steps being taken by PSEG, and the new site construction, both in selecting the mitigation sites, and managing the restored and enhanced wetland sites. (0001-4-5 [Velinsky, David])

Response: *Comment noted. The NRC staff will discuss potential ecological impacts of the proposed project, including causeway construction, in Sections 4.3 and 5.3 of the EIS. Any mitigation measures, proposed by the applicant, including any wetland enhancement efforts, will be discussed in Sections 4.3 and 5.3.*

Comment: You will hear that reactors are a threat to wildlife, but humans are among the species most sensitive to radioactivity, and their health has not been harmed. What will be an immeasurably small effect on wildlife from regulated releases, should be contrasted with the extensive damage to habitat, that would result from renewable installations, which you will hear about shortly. (0001-5-5 [Meadow, Norman])

Response: *The NRC staff will evaluate the radiological impacts to wildlife from normal operation of the proposed reactor in Section 5.3 of the EIS. Potential effects on ecological receptors will be assessed based on appropriate exposure scenarios. Any mitigation measures, proposed by the applicant, to minimize this potential impact will also be discussed in the EIS in Section 5.3. Potential impacts to terrestrial resources resulting from the proposed project will be contrasted against implementation of other energy alternatives in Chapter 9 of the EIS.*

Comment: Whether the area is on land, or offshore, it is mind boggling to think of the potential harm, and humongous impacts of industrial wind. On land, particularly, the Appalachian Mountains of the East, the 396,000 acres, required, would destroy the mainly unfragmented, biologically rich forests, which are not only habitat for bats and nesting neo-tropical birds, but also habitat for terrestrial flora and fauna. The area is, also, a major migratory corridor for birds, bats, and raptors. Yet without full review of environmental impacts, or cost to taxpayers and customers, permits are being granted. (0001-7-8 [Eastman, Ajax])

Response: *The NRC staff will discuss potential impacts to terrestrial resources resulting from the proposed project in contrast to implementation of other energy alternatives in Chapter 9 of the EIS.*

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As for the impacts offshore, we really can't know the full extent of the harm turbines will have on the aquatic resources, benthic organisms, oceanic mammals, or pelagic birds. Where is the precautionary principle in the blind acceptance of, and push for, such a destructive form of energy?

As for the impacts offshore, we really can't know the full extent of the harm turbines will have on the aquatic resources, benthic organisms, oceanic mammals, or pelagic birds. Where is the precautionary principle in the blind acceptance of, and push for, such a destructive form of energy? (0001-7-9 [Eastman, Ajax])

Response: *The NRC staff will discuss potential impacts to terrestrial resources resulting from the proposed project in contrast to implementation of other energy alternatives in Chapter 9 of the EIS.*

Comment: After reviewing the Estuary Enhancement Program, by PSEG, I'm impressed by their innovative mitigation measures, such as wetland restoration, phragmites control, fish protection at the nuclear sites, restoration of anadromous fish migration, through fish ladders, research, et cetera. These programs have resulted in long lasting benefits for the saltwater estuary, including expanded biological diversity and habitats, breeding areas, food sources for aquatic, terrestrial, and avian species, especially threatened and endangered species, and better water quality. This leads me to believe that PSEG will do an excellent job of mitigation in the future. (0001-7-11 [Eastman, Ajax])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment. Mitigation measures proposed by the applicant to minimize impacts and enhance terrestrial resources will be discussed in Sections 4.3 and 5.3 of the EIS.*

Comment: And I was really pleased to hear that the proposed site for these new reactors will be on land that is primarily phragmites, right now. That is a good thing to get rid of. (0001-7-13 [Eastman, Ajax])

Response: *Comment noted. The NRC staff will describe the existing wetlands that could be affected in Section 2.4 of the EIS. Staff will discuss impacts to wetland resources in Sections 4.3 and 5.3 of the EIS.*

Comment: The Environmental Report indicates an overall wetlands impact of about 229 acres, from the new plant, and proposed causeway. It is further indicated that there is an abundance of wetlands in the vicinity, totaling more than 25,000 acres, and the quality of a dominant species, as we heard previously, is phragmites.

Additional lands targeted for acquisition through a land right exchange to the north of the site, are part of an existing Army Corps of Engineers confined disposal facility area that is surrounded by dikes and not open to the tides.

PSEG would reduce environmental impacts by placing permanent facilities inside these diked areas. And 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. (0001-8-10 [Molzahn, Robert])

Response: *The NRC staff will discuss any mitigation measures proposed by the applicant, including any wetland enhancement efforts, in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will also be fully discussed in the EIS in Section 4.3. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: Although the existing PSEG nuclear complex is an ideal location for an additional unit, because all of the important conveyance systems are in place, and those will not have to be developed, such as they would if it was 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. (0001-8-11 [Molzahn, Robert])

Response: *The NRC staff will discuss any mitigation proposed by the applicant for ecological impacts in Sections 4.3 and 5.3 of the EIS. This will include a complete discussion of design measures to minimize such impacts. To the extent that they are deemed necessary, wetlands mitigation and plans for enhancement and compensation will be fully discussed.*

Comment: Particularly impressed, from an ecologist's standpoint, were the tremendous input and environmental plus that they took a 20,000 acre restoration program, instituted by PSEG, has provided in the environment. It is a real, it is internationally recognized as something of real value, and it certainly has made a major change in the ecosystem, in

those areas where it has already been established, and we are very optimistic about the program continuing on into the future. (0001-9-3 [Lacandro, Roger])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: And I know that one of the potential or likely environmental impacts has to do with wetlands, the proposed construction of this facility. I have to tell you that I'm very comfortable with PSEG dealing with the challenges of mitigating impacts on wetlands and, actually, their commitment to restoring wetlands. They have been involved with, perhaps, one of the largest estuarine restoration programs in the country, 20,000 acres of wetlands restored in Delaware Bay, the River, and the estuary, and it has led to increased production of fin fish and shell fish. So there are, like, wetland impacts. But I think the company is certainly up to the challenge of mitigating those. (0002-4-2 [DeLuca, Mike])

Response: *Comment noted. The NRC staff will discuss potential wetland impacts resulting from the proposed project in Sections 4.3 and 5.3 of the EIS. Overall restoration, preservation and enhancement efforts will also be discussed as part of the existing environment in Section 2.4 of the EIS.*

Comment: The Estuary Enhancement Program has done a phenomenal job of creating substantial new areas of high quality wetland habitat, which very definitely has an impact on, in particular, juveniles of a wide variety of aquatic species, and nutrient flow, in the area. And it, really, is a phenomenal laboratory at this point for understanding the importance of, and the development of, those types of habitats. Most of those habitats were much less productive prior to the work that PSEG engaged in, having been really run over by exotic phragmites. That made them much less valuable as natural systems than they are today. (0002-5-1 [Duvall, Brian])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: But you know something? The ducks are still flying, the water fowl are still doing well, and there are still muskrats. And I believe if there is going to be an additional plant, it is a great place to have it, the infrastructure is there. (0002-8-5 [Campbell, Keith])

Response: *Comment noted. The NRC staff will describe the terrestrial ecology of the area, including wildlife resources, in Section 2.4 of the EIS.*

Comment: Construction of a new nuclear facility and access road at this location will result in the damage of wetlands and have adverse effects on a variety of aquatic life, bird life and wildlife. (0003-3 [Batty, Sandy] [Dillingham, Tim] [Galetto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Response: *The NRC staff will discuss potential impacts to terrestrial resources and wetlands as a result of this project in Sections 4.3 and 5.3 of the EIS. Any mitigation measures proposed by the applicant, including any wetland enhancement efforts, will also be discussed in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will be fully discussed in the EIS in Section 4.3. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: The Army Corps and PSEG must consider an alternative to the land swap, such as using the existing access road to Artificial Island instead of creating a second road, if and when a new nuclear facility is permitted. This would avoid destruction of wetlands and obviate the need for a new dredge disposal site. In our view, the existing access road should be sufficient and no additional destruction of wetlands should be permitted at the site. Issues associated with a new spoil disposal site are as yet unknown as the sites under consideration are unknown. But there are likely to be issues, considering the Army Corps' preference for riverfront lands. (0003-7 [Batty, Sandy] [Dillingham, Tim] [Galletto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Response: *The NRC staff will discuss potential impacts to wetlands as a result of this project in Sections 4.3 and 5.3 of the EIS. Any mitigation measures proposed by the applicant, including efforts to minimize wetland impacts, will also be discussed in Sections 4.3 and 5.3 of the EIS.*

Comment: To many environmental groups renewable energy is a preferable alternative to reactors. To those concerned with the conservation of biological diversity, however, the cumulative ecological impacts of large-scale renewable projects will be their most detrimental effect. We believe that concern for cumulative ecological impacts of the Alternatives, wind, solar, and biomass should be included in the final EIS as a reason for rejecting them as an alternative. (0007-7 [Lewis, Kenneth])

Response: *The NRC staff will discuss potential impacts to terrestrial resources resulting from the proposed project in contrast to implementation of other energy alternatives in Chapter 9 of the EIS.*

Comment: Much of the needed science for the ESP should be at hand since the new station is being sited adjacent to Hope Creek and Salem Creek generation stations; their track record appears to be good, the new site will share the same geology, use of in place dredge spoils constituting all soils of the area-thus, artificial Island. Natural resource impacts must be the same for all sites in this homogeneous environment. The 20,000 acre restoration program instituted by PS&G in the greater area has only provided added benefit to the recovery of nearby wetlands, an internationally recognized success. Plans appear to be in place to expand the restoration program to continue to benefit the area. (0008-4 [Lacandro, Roger])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: 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 attracted 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 Estuarine Enhancement project in the world. 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. (0010-4 [Applegate, Jim])

Response: *Comment noted. The NRC staff will discuss ecological impact mitigation, as proposed by the applicant, in Section 5.3 of the EIS. PSEG's estuarine enhancement program will be discussed in Section 2.4 of the EIS as part of the existing environment. The EIS will also include a discussion of the bay-wide approach undertaken by PSEG.*

Comment: Returning to the purpose of this hearing. 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. (0010-6 [Applegate, Jim])

Response: *The NRC staff will discuss any off-site mitigation measures as proposed by the applicant in Section 4.3 of the EIS. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: 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. Additional lands targeted for acquisition through a land right exchange to the north of the site are part of an existing Army Corps of Engineers Confined Disposal Facility area (CDF) that is surrounded by dikes and not open to tides. PSEG would reduce environmental impacts by placing permanent facilities inside these 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. (0011-11 [Molzahn, Robert])

Response: *The NRC staff will discuss any mitigation as proposed by the applicant, including any wetland enhancement efforts, in Section 4.3 of the EIS. Potential off-site mitigation measures will be fully discussed, as necessary, in the EIS in Section 4.3. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: Although 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. (0011-13 [Molzahn, Robert])

Response: *The NRC staff will discuss any mitigation measures as proposed by the applicant for ecological impacts in Sections 4.3 and 5.3 of the EIS. This will include a complete discussion of design measures to minimize such impacts. To the extent they are deemed necessary, wetlands mitigation and plans for enhancement and compensation will also be fully discussed.*

Comment: In addition, I urge that the cumulative ecological impacts of alternative energy generating sources be included in the Environmental Impact Statement (EIS) in order to show that by comparison nuclear energy is a far preferable option. (0012-4 [Eastman, Ajax])

Response: *The NRC staff will discuss potential impacts to terrestrial resources resulting from the proposed project in contrast to implementation of other energy alternatives in Chapter 9 of the EIS.*

Comment: I am particularly interested in addressing the biological impacts of renewables, primarily wind. This technology has a huge impact on the biological world. In order to produce an equivalent amount energy, wind requires an enormous footprint. As pointed out in their Environmental Report, ... to replace the energy equivalent a 2200 MWe of nuclear capacity operating at 90 percent capacity factor, approximately 3300 2 MWe wind turbines operating at a capacity factor of 30 percent would be required. These turbines would be sited on 396,000 acres (619 square miles) and disturb 19,800 acres (31 square miles) to accommodate the physical footprint of the towers themselves. (I like the ESP's comparison of that amount of land to 15 times the area of Newark!) (0012-8 [Eastman, Ajax])

Response: *The NRC staff will discuss potential impacts to terrestrial resources resulting from the proposed project in contrast to implementation of other energy alternatives in Chapter 9 of the EIS.*

Comment: Whether that area is on land or offshore, it is mind boggling to think of potential harm and humongous impacts of industrial wind. On land, particularly in the Appalachian mountains of the east, the 396,000 acres required would destroy the mainly unfragmented, biologically rich forests which are not only habitat for bats and nesting neo-tropical birds, but also habitat for terrestrial flora and fauna. The area is also a major migratory corridor for birds, bats, and raptors. Yet without full review of the environmental impacts or the costs to taxpayers and customers, permits are being granted. (0012-9 [Eastman, Ajax])

Response: *The NRC staff will discuss potential impacts to terrestrial resources resulting from the proposed project in contrast to implementation of other energy alternatives in Chapter 9 of the EIS.*

Comment: After reviewing the Estuary Enhancement Program by PSEG, I am impressed by their innovative mitigation measures such as wetland restoration, phragmites control, fish protection at the reactor sites, restoration of anadromous fish migration through fish ladders, research, etc. These programs have resulted in long-lasting benefits for the saltwater estuary including, expanded biological diversity and habitats, breeding areas, food sources for aquatic, terrestrial, and avian species, especially threatened and endangered species, and better water quality. This leads me to believe that PSEG will do an excellent job of mitigation in the future. (0012-13 [Eastman, Ajax])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: 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. (0013-2 [Burger, Joanna])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: 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. (0013-3 [Burger, Joanna])

Response: *Comment noted. The NRC staff will describe wetlands that could be affected in Section 2.4 of the EIS.*

Comment: 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. (0013-4 [Burger, Joanna])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant for impacts to wetlands in Sections 4.3 and 5.3 of the EIS.*

Comment: The Environmental Plan they present is sound, well-thought out, and sufficiently developed to ensure that it can be accomplished. The Environmental Report is extensive, comprehensive, and devotes considerable attention not only to the environmental, physical, and ecosystem issues, but to appropriate public involvement and monitoring. As an ecologist I have been impressed with their due diligence in addressing all the outstanding environmental issues, and going well beyond what is necessary in terms of mitigation and restoration of additional habitat. The State of New Jersey will be gaining considerable high quality habitat by these actions, in exchange for degraded, low quality Phragmites marsh that is on the current site (and that will be the site of the new nuclear facility). (0013-5 [Burger, Joanna])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant, including any wetland enhancement efforts, in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will also be discussed, as necessary, in the EIS in Section 4.3. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: 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. (0013-6 [Burger, Joanna])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant for impacts to wetlands in Sections 4.3 and 5.3 of the EIS.*

Comment: Before addressing the new construction, I would point out PSEG's past efforts to mitigate the effects of its operations on the aquatic environment in the Salem vicinity. In particular, faced with concerns of negative impacts on fisheries by cooling water intake operations, PSEG responded with the largest private wetlands restoration project in the world. The Estuary Enhancement Program began in 1994 and since that time has been a large scale effort to restore and preserve portions of the Delaware Estuary in both New Jersey and Delaware. PSEG has restored, enhanced, and/or preserved more than 20,000 acres of salt marsh and adjacent uplands to vital, healthy habitat for fish and wildlife.

Restoration efforts have included the goal of replacing former salt hay farms and marshes dominated by invasive Phragmites australis with salt cord grass-dominated marsh. The Academy has studied many of these sites prior to restoration and visited a number afterwards. The Estuary Enhancement Program has been successful in

restoring typical salt marsh conditions at the sites, with most sites meeting targets for reduction in Phragmites and establishment of salt cordgrass. Many of these and related studies have been published in various peer-reviewed scientific journals. (0014-3 [Velinsky, David])

Response: *Comment noted. The NRC staff will discuss PSEG's restoration, preservation and enhancement efforts in Section 2.4 of the EIS as part of the existing environment.*

Comment: The proposed new construction will permanently impact approximately 229 acres of wetland. While protection of wetland is a high national priority (as demonstrated by Section 404 of the Clean Water Act), the majority of the wetland acreage impacted by the new construction has a degraded hydroperiod and now hosts a monoculture of Phragmites australis. An invasive reed grass, Phragmites is often found in disturbed marsh areas, where plant communities, hydrology and topography have been altered. Phragmites displaces native plants and has a negative impact on biodiversity. Targeting these degraded wetlands in close proximity to existing PSEG facilities will reduce the need for new infrastructure, minimizing the environmental disturbance that would result if development occurred in "Greenfield" sites. Moreover, the amount of wetlands impacted represents a small fraction of the total wetland - many with higher quality functions - present in the vicinity of the construction.

In addition, 85 acres of the wetland being permanently altered by the construction are located in the U.S. Army Corps of Engineers Combined Disposal Facility (CDF.) This has been the site for dumping of dredge spoils from deepening of the Delaware River Channel. It is surrounded by dikes and is not open to tidal influences. It is unlikely that this site supports high level wetland functions and utilizing it where permanent construction is necessary will limit overall wetland impacts. (0014-5 [Velinsky, David])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant including any wetland enhancement efforts, in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will also be discussed Section 4.3 of the EIS. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: PSEG is making acceptable efforts to restrict impact on these wetlands, including a site plan to minimize encroachment, the use of sediments pits to stage some of the construction operations, and the use of a raised causeway rather than using fill material to carry the access road to the new site. Where permanent disturbance to wetland occurs, PSEG has outlined a mitigation plan that should create new wetland environments in adequate amounts to offset any loss. We anticipate that the resources and expertise developed in the EEP will provide a foundation for the mitigation steps being taken by PSEG in the new site construction, both in selecting the mitigation sites and in managing the restored and enhanced wetland sites. (0014-7 [Velinsky, David])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant, including any wetland enhancement efforts, in Sections 4.3 and 5.3 of the EIS.*

Comment: The basic restoration activities developed by the EEP, particularly controlling Phragmites and fostering development of good tidal marsh topography and hydrology, have advanced the field of ecological restoration. The ecological engineering technique of forming primary channels and using estuarine processes to further develop channels and topography is especially notable. As such, the Estuary Enhancement Program has provided an important model for marshland restoration which is an important component of PSEG's proposed mitigation plan. (0014-9 [Velinsky, David])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant, including any wetland enhancement efforts, in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will be discussed in Section 4.3. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: Therefore, DRN urges NRC to review certain issues in more detail, including: clearer evaluation of PSEG's use of the Army Corps confined disposal facility, and cumulative impacts resulting from use of that site; water impacts including dredging and construction impacts; filling of wetlands; floodplain impacts; habitat impacts and impacts to species, especially Atlantic sturgeon; and impacts and evaluation of alternatives for cooling systems. (0018-3 [Brown, Elizabeth])

Response: *The NRC staff will discuss any mitigation measures as proposed by the applicant for ecological impacts in Sections 4.3 and 5.3 of the EIS. This will include a complete discussion of design measures to minimize such impacts. To the extent they are included, wetlands mitigation and plans for enhancement and compensation will be fully discussed. This will include an evaluation of PSEG's use of the Army Corps of Engineers' confined disposal facility. The cumulative impacts on terrestrial and wetland ecosystems resulting from the use of that site will be discussed in Section 7.3 of the EIS.*

Comment: The ER also estimates that the Project will permanently disturb 126.6 acres of wetlands on the site. The EIS must make a full and fair evaluation of the impacts of this permanent loss of wetlands and habitat, and consider all viable alternatives to this loss. (0018-11 [Brown, Elizabeth])

Response: *The NRC staff will discuss any mitigation measures as proposed by the applicant for ecological impacts in Sections 4.3 and 5.3 of the EIS. This will include a complete discussion of design measures to minimize such impacts. To the extent they are necessary, wetlands mitigation and plans for enhancement and compensation will be fully discussed.*

Comment: The Division of Land Use Regulation has received the PSEG Early Site Permit (ESP) application and has determined that the project will require permits.

As proposed, the project will require a CAFRA Individual Permit, Coastal Wetlands Permit, Waterfront Development Permit and Freshwater Wetlands Individual Permit from the Division. These permits must be obtained prior to any construction activities on the site related to the project described above. The Division has issued a consistency determination for the project that was sent to PSE&G representatives on July 19, 2010. (0019-22 [Brubaker, Scott])

Response: *Comment noted. The NRC staff will discuss permit and other regulatory requirements associated with the project in Chapter 1 and Appendix H of the EIS.*

Comment: Guidelines under Section 404(b)(1) of the federal Clean Water Act require that actions proposed within waters of the United States, especially those that are not water-dependent, are required to demonstrate that they have considered all appropriate reasonable and prudent measures to avoid and minimize impacts to waters. If all measures to avoid and minimize wetland impacts have been considered and employed to the extent practicable and result in unavoidable impacts, a compensatory mitigation plan should be developed and implemented.

The applicant should undertake a complete analysis of alternatives that complies fully with the Clean Water Act Section 404 (b)(1) Guidelines that documents avoidance, minimization and mitigation for all impacts. Alternate locations as well as a documentation of purpose and need should be provided as part of this analysis. For any unavoidable impacts, a compensatory mitigation plan to offset all of the projects impacts to aquatic resources including EFH should be developed in accordance with the federal standards and criteria for compensatory mitigation for losses of aquatic resources published in the Federal Register on April 10, 2008 (vol. 73 No. 70). This plan should be developed as early in the permit process as possible and in consultation with the applicable federal, state and local resource agencies and will be implemented on and in the immediate area of the PSEG Site to the extent practicable. (0022-5 [Gorski, Stanley])

Response: *The NRC staff will discuss any mitigation measures as proposed by the applicant for ecological impacts in Sections 4.3 and 5.3 of the EIS. This will include a complete discussion of design measures to minimize such impacts. To the extent they are necessary, wetlands mitigation and plans for enhancement and compensation will be fully discussed. Alternative locations will be discussed in Chapter 9 of the EIS.*

Comment: In the State of NJ, coastal wetlands are regulated by the state under the Wetlands Act of 1970. Development in coastal wetlands requires authorization of permits from the NJDEP, and requires separate processes to determine a project's value. However, such processes usually fit in within a federal process. (0022-8 [Gorski, Stanley])

Response: *Comment noted. The NRC staff will discuss permit and other regulatory requirements associated with the project in Chapter 1 and Appendix H of the EIS.*

Comment: After reasonable measures have been explored to avoid and minimize impacts to wetlands, PSEG will compensate for unavoidable adverse impacts to wetlands by implementing approved wetland restoration and/or rehabilitation measures. PSEG, through their Ecosystem Enhancement Program, has extensive experience and demonstrated success implementing coastal saltmarsh and freshwater wetland restoration and rehabilitation programs. This familiarity with local wetland systems was used to identify appropriate candidate mitigation sites and will be used in developing and implementing the final approved mitigation plan.

Mitigation options mentioned in the NRC's ESP to offset the impacts to NOAA trust resources included the following considerations:

- Minimization of encroachment on coastal wetlands

- Use of previously developed sediment disposal basins for plant development (both PSEG's permitted disposal facility and the USACE's CDF)
- Refinement of the Site Utilization Plan to avoid various wetland areas throughout the PSEG Site

Opportunities for mitigating unavoidable impacts to wetland ecosystems include restoration of natural habitats temporarily disturbed by construction, creation of new habitat types in previously disturbed areas, and enhancement of undisturbed natural habitats.

In general, NMFS does not accept the conversion of one type of aquatic habitat into another habitat as compensatory mitigation when the existing habitat has value to aquatic life. Candidate mitigation areas include portions of the existing PSEG Site, Mannington Meadow, Mason's Point, and additional areas of the PSEG Alloway Creek Watershed restoration site. (0022-9 [Gorski, Stanley])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant, including any wetland enhancement efforts, in Sections 4.3 and 5.3 of the EIS. Potential off-site mitigation measures will also be discussed, as necessary, in the EIS in Section 4.3. A bay-wide approach will be similarly emphasized over a site-specific evaluation that can overlook the benefits of an overall ecosystem approach.*

Comment: Fish and Wildlife Coordination Act

Notwithstanding our mandates under the MSA, the NMFS also has responsibilities under the Fish and Wildlife Coordination Act (FWCA) to provide federal agencies such as the NRC with recommendations to avoid, minimize and to mitigate for direct, indirect and cumulative impacts to any and all NOAA trust resources that are present within the Delaware River Basin. (0022-11 [Gorski, Stanley])

Response: *Comment noted. The NRC staff will discuss any mitigation measures as proposed by the applicant for ecological impacts in Sections 4.3 and 5.3 of the EIS. This will include a complete discussion of design measures to minimize such impacts. To the extent they are necessary, wetlands mitigation and plans for enhancement and compensation will be fully discussed. The cumulative impacts on terrestrial and wetland ecosystems resulting from this project will be discussed in the EIS in Section 7.3.*

Comment: Submerged aquatic vegetation (SAV) has historically been absent from Delaware Bay. However, to date, there has been no comprehensive mapping of SAV in the Delaware Estuary to verify its presence or absence. Several species have been observed though in the tidal river since 1970, including: *Vallisneria americana*, *Myriophyllum spicatum*, *Elodea nuttallii*, *Najasflexillis*, *Potamogeton* sp. and others (Schuyler, 1988). Wild celery (*Vallisneria americana*) has been documented in some areas of the Delaware River and its tributaries. SAV provides valuable nursery, forage and refuge habitat for a variety of fish including striped bass, American shad, alewife, and blueback herring. It is also an important food source for waterfowl. As water quality in the Delaware River continues to improve, more areas of SAV may be found within the River. (0022-13 [Gorski, Stanley])

Response: *Comment noted. The NRC staff will describe the terrestrial ecology of the area, including wildlife resources, in Section 2.4 of the EIS.*

2.10 Comments Concerning Ecology - Aquatic

Comment: With the new facility a good thing is, if it is built, that it would have a closed loop cooling system, which would greatly reduce the amount of water needed to cool the facility. A closed loop cooling system reduces the water take, compared to an open loop system, by 90 to 95 percent. So however, an average nuclear facility draws in, an open loop system, like a billion gallons of water a day, over a billion. So even with the closed loop, you are still talking about 50 million to 100 million of gallons a day. So you would be adding to the amount of fish that are killed at that facility. So you must consider the existing damage that the present facility, Salem I and II causes, and adding even more damage. And Salem I and II draws in three billion gallons of water a day, every day. And it kills billions of fish. And the EPA has estimates on how much. And I have a paper I would like to submit as data. And they kill 350 million age one equivalent fish. In other words, fish that would have grown up to be a million, I mean, one year old. That is how they generally use their fish kill data; they call it age one equivalent fish. But, actually, the facility kills billions of fish, billions of smaller fish, which is the food chain for the bigger fish, and the whole ecosystem. So my concern here is that you want to build a new facility, but you are not stopping the existing damage caused by the present facility that is there, units I and II, which draw in three billion gallons of water, and have an open loop cooling system. So before you consider building a new facility you should stop the damage caused by the existing facility, first. I think that is a priority. But it seems like just build another one. But you still have an existing fish kill facility, there. And it kills all species, all ages. And it is destroying the fishing industry along the Delaware Bay and the Delaware River. We used to have a great fishing industry, and we don't now. Not when one facility draws in three billion gallons of water a day. And Salem says we fixed up some wetlands and that will compensate. It is really hard to believe that fixing up a few acres of wetlands will compensate for billions of fish killed, every year, year after year. So I feel that you should fix the first two, units Salem I and II, and then consider moving on. (0002-6-10 [Schneider, Richard])

Response: *Potential effects of entrainment and impingement on fish populations will be discussed in Sec. 5.3.2. In addition, cumulative impacts of all facilities will be discussed in Chapter 7.*

Comment: Although the water volume withdrawn from the Delaware River by the closed cycle new plant is substantially lower, there will still be impingement and entrainment of aquatic life, as well as potentially significant thermal impacts from the closed-cycle cooling system. Maximum intake of the new plant is estimated in the ER to be equivalent to 3.7 percent of the intake flow of once-through cooling at the existing Salem facility. However, regarding thermal discharge, the new plant discharge is located within the region already influenced by the thermal discharges of the existing Salem and Hope Creek facilities. The impact of this situation on thermal plume must be fully and rigorously evaluated in the EIS, regardless of any applicable mixing zone. (0018-16 [Brown, Elizabeth])

Response: *Thermal impacts and impacts to surface water as a result of plant operations will be discussed in Sections 5.2.2.1 and 5.2.4 of the EIS. Potential operational impacts to aquatic life, including entrainment and impingement, will be discussed in Section 5.3.2.*

Comment: During the re-permitting of the existing nuclear facilities at Salem, PSEG developed a bay-wide concept of mitigating the impacts of the existing cooler apparatus at those 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 attracted 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 hearing. (0001-10-5 [Applegate, Jim])

Comment: Since then I have followed, with my students, and with great interest, what has become the largest estuarine enhancement project in the world. Without going into any details, the project has been, in my mind, a resounding success at many levels, in increasing the resource value of large acreages throughout the bay. PSEG has a solid track record in delivering on their commitment to bay-wide health. (0001-10-7 [Applegate, Jim])

Comment: Returning, finally, to the purpose of this hearing, should this project move forward with construction, there will be on-site habitat impacts that will be unavoidable. I urge the process to embrace the same bay-wide approach used in the estuarine enhancement program, and to be creative and aggressive, in identifying off-site mitigation opportunity. Hold PSEG's feet to the fire. History suggests that they will deliver. (0001-10-9 [Applegate, Jim])

Comment: The company had the foresight, long before the Estuarine Restoration Act was passed, with the goal of restoring a million estuarine acres, including many wetlands, in the U.S. by the year 2010. Long before that Act was passed, and the guardian of that act became two entities, essentially, Restore America's Estuaries, a practitioner coalition nation-wide. Actually now world-wide. And the Community Restoration Center, NOAA Restoration Center, Community Based Restoration Center which has, I think, a collective budget, over the years, now exceeding 28 million dollars. Before that became in the public venue, and popular, restoring wetlands is a good thing, and we needed to know why, of course.

Long before that became the popular trend, the company PSEG had been developing this program as a cost-effective basis for offsetting the effects of the power plant, with respect to its take of fin fish and shellfish. And the goal was to produce enough wetland acreage, or to conserve and restore enough wetland acreage, to produce the number of equivalent adults that would be lost at the facility. (0001-14-4 [Weinstein, Michael])

Comment: So let me close with a series of statistics, if I may. First of all, as Seagrant Director, I was able to enter into a public private partnership with the company. The company put up 750,000 dollars over five years, and we Seagrant Directors, in 11 states around the nation, matched those funds, to do some of the basic and applied research to understand what was going on, as we were restoring these sites.

One of those projects funded a young lady by the name of Kristen Solenstal at Yale University. She was the first of many people trying, with that funding, to demonstrate that the variety of phragmites that we call bad is actually an introduced variety, probably from either Asia, or Europe, or probably both.

That was part of this Marsh Ecology Research Program, or the MERP, as we called it. All of these funds were parlayed into many federal grants. For example, I have been funded by the EPA, by NOAA, several agencies within NOAA, ANS, Solestol Kennedy, I have received NSF funding. All as part of the programmatic opportunity, at the Estuary Enhancement Program created for people interested in understanding how to do this restoration, how to make it effective, and why it actually works.

Two contributions, three contributions that will be the last I say. Three contributions that we made, that come immediately to mind is, as a group, the scientists involved in the Estuary Enhancement Program developed the practitioner skills, or methods, for restoring wetlands. What kinds of criteria and metrics should you be thinking about, when you go in to restore a site? Those metrics have been fully adopted by Restore America's Estuaries, and has been published as a public document by them. We published it, of course, in the peer reviewed literature, on our own.

Secondly, one of the toughest things to do, when you are trying to look at these restored sites with respect to the returns of functions and processes, as opposed to the structure of these sites, it is relatively easy to grow grass. I apologize to my friends in the Corps. But you are the guys that told me to keep it simple, stupid. We can defend 85 percent survival after three years in court, to a wetland ecologist that means absolutely nothing, other than you are pretty good at growing grass, which I guess is not bad. (0001-14-8 [Weinstein, Michael])

Comment: I mention that we are able to employ new, really state of the art, modeling efforts, something called Echopath and Echosim, if any of you are familiar with it, to demonstrate, once again, that the increment of new production, one is measurable against background, and two, it is equated with the goals of the program. This is one of the most important projects with regard to coastal wetland management, and coastal management in general, that has ever been undertaken.

And I, personally, applaud the foresight of the company to do something like this, when it wasn't considered, at the time, best management practices. And whether it becomes best management practice, regulatory or law, or otherwise it clearly has been. (0001-14-10 [Weinstein, Michael])

Response: *These comments provide general information in support of the application. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. However, mitigation measures related to construction and operational impacts will be discussed in Sections 4.3.2 and 5.3.2, respectively.*

Comment: Construction of a new nuclear facility and access road, at this location, will result in the damage of wetlands, and adverse effects on a variety of aquatic life, bird life, and wild life. (0001-19-4 [Blake, Matt])

Comment: With respect to restoration of wetlands, it has been common knowledge, for a long time, that wetlands support the production of most commercial and recreational fin fish and shellfish species, that we all enjoy eating, or capturing, or both. To the extent that you can find citations in the literature, Irland and Lacy, for example, that say 95 percent of all commercial and recreational species produced, marine species produced in the United States, require wetlands as essential habitats during their first year of life. (0001-14-2 [Weinstein, Michael])

Comment: We have been able to demonstrate, given the extreme variability around any mean you calculate, in these sites, in terms of processes and functions, that the 20 plus thousand acres produced a new increment of secondary production of these fin fish and shellfish that exceeded the loss, again as I said before, of equivalent adults. Also we have been able to document, everybody says phragmites is bad, and we suspected for a long time that it had to do with habitat, and other functional processes.

Some of our research has now demonstrated that a fish growing up in a phragmites dominated marsh, whatever the combination of factors is, and I should say to you, much to the company's chagrin, I was able with my colleagues to demonstrate that carbon nitrogen nutrients from phragmites is, indeed, finding its way into this fish.

But the quality of the animal, the end of the growing season, falls short of the quality of an animal in a naturally cord grass dominated marsh. In other words, they can't put down the energy reserves, for migration and overwintering, if they grow up in a phragmites marsh. (0001-14-5 [Weinstein, Michael])

Response: *Potential impacts as a result of construction and operation on wetlands and their associated aquatic life and wildlife will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: The natural systems of the Delaware River and estuary are critical environments, with major significance for both regional and global biodiversity, for regional water supply, and water quality, and for supporting important environmental activities. Construction on the scale proposed by PSEG, on the Delaware coast, requires careful consideration of environmental factors. (0001-4-2 [Velinsky, David])

Response: *Potential construction impacts on aquatic systems associated with the Delaware coasts (Delaware River, associated wetland systems) will be discussed in Section 4.3.2*

Comment: Before addressing the new construction, I would like to point out PSEG's past efforts to mitigate the effects of its operations on the aquatic environment in the vicinity. In particular, faced with concerns of negative impacts on fisheries, by cooling water intake operations, PSEG responded with the largest private wetlands restoration project in the world.

The Estuary and Enhancement program began in 1994, and since that time has had large scale efforts to restore and preserve portions of the Delaware River estuary, in both New Jersey and Delaware. It has restored, enhanced and/or preserved more than 20,000 acres of salt marsh, and adjacent uplands to vital, healthy habitat for fish and wildlife. (0001-4-4 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on aquatic environments in the vicinity of the proposed site will be discussed in Sections 4.3.2 and 5.3.2*

Comment: In addition to the steps being taken to protect wetlands impacted by the construction, the aquatic impacts of the proposed facility will be limited by the use of a closed-cycle cooling system. Compared to the once through system, these cooling towers will divert much less water for cooling. Projected maximum diversion, for the new facility, is less than four percent, depending on the type of facility of the current use by Salem, and is less than .05 percent of the total volume of the Delaware flow. As a result, the impingement on fish population will be a small fraction of the current levels at the Salem station. (0001-4-6 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Operational impacts such as impingement, however, will be discussed in Section 5.3.2*

Comment: After reviewing the Estuary Enhancement Program, by PSEG, I'm impressed by their innovative mitigation measures, such as wetland restoration, phragmites control, fish protection at the nuclear sites, restoration of anadromous fish migration, through fish ladders, research, et cetera. These programs have resulted in long lasting benefits for the saltwater estuary, including expanded biological diversity and habitats, breeding areas, food sources for aquatic, terrestrial, and avian species, especially threatened and endangered species, and better water quality. This leads me to believe that PSEG will do an excellent job of mitigation in the future. (0001-7-12 [Eastman, Ajax])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects will be addressed in Sections 4.3.2 and 5.3.2*

Comment: In reviewing the PSEG Early Site Permit application, and Environmental Report filed on May 25th, 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 under Section 316B of the Clean Water Act. The cooling tower blow-down discharge should have little impact on the Delaware River, at this location, or significantly elevate river water temperatures. (0001-8-7 [Molzahn, Robert])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any potential operational impacts, however, related to the operation of the cooling system will be addressed in Section 5.3.2.*

Comment: Much of the needed science, on the Early Site Permit should be, really, right at hand, since this is a contiguous site that is being proposed. Their track record has been good. I, personally, have observed the impingement and entrainment process, since I also teach fishery science, and fishery research, and have had an opportunity to testify as to the value, not only the impingement and entrainment process, but also the continued elevation of new technology, as it came on the scene. (0001-9-3 [Lacandro, Roger])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any potential operational-related impacts such as entrainment and impingement, however, will be discussed in Section 5.3.2.*

Comment: A new plant will provide an excellent opportunity to incorporate new technology, hopefully to produce cleaner, safer energy, and especially if a cooling tower is incorporated into the new plans. I'm familiar with the impingement and entrainment, as I said. The much reduced need for water in a cooling tower process, you know, will reduce much of that impact, considerably. I know of no scientific study that proves that the present cooling processes, at Salem and Hope Creek has generated any impact on the estuary. It can be debated, it can be argued. But I have not seen a scientific study that really proves that fact. After reviewing the EPS [ESP] request, I find no reason to deny the requested permit. (0001-9-5 [Lacandro, Roger])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any potential operational impacts, however, such as impingement and entrainment will be evaluated in Section 5.3.2.*

Comment: And I know that one of the potential or likely environmental impacts has to do with wetlands, the proposed construction of this facility. I have to tell you that I'm very comfortable with PSEG dealing with the challenges of mitigating impacts on wetlands and, actually, their commitment to restoring wetlands. They have been involved with, perhaps, one of the largest estuarine restoration programs in the country, 20,000 acres of wetlands restored in Delaware Bay, the River, and the estuary, and it has led to increased production of fin fish and shell fish. So there are, like, wetland impacts. But I think the company is certainly up to the challenge of mitigating those. (0002-4-3 [DeLuca, Mike])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction effects on wetlands will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: The other potential impact area which is, again, well known with coastal development, and energy facilities, in particular, is that on fin fish and shell fish. And I do note that the application does call for construction of a cooling tower which is, you know, one of the ideal strategies for mitigating harm to fin fish and shell fish, particularly their

eggs and larvae. There are, also, thermal impacts that are mitigated by this particular design component. (0002-4-5 [DeLuca, Mike])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any operational effects will be evaluated in Section 5.3.2.*

Comment: I would just like to mention two areas of potential interest if, indeed, there is some broader consideration of mitigation strategies. And that is a lot of work has been underway in the Delaware estuary to restore two signature species, the oyster and sturgeon. Oysters are on the rebound. They have beset by disease, and overharvesting, for years. And today we actually enjoy a modest harvest. I don't believe the expansion of this proposed plant will endanger that critter. But, perhaps, there are some opportunities to enhance the restoration of that particular species. And, similarly, with sturgeon. South Jersey used to be the caviar capital of the world, at the turn of the last century. Sturgeon have been just listed as endangered by the federal government. There are efforts, under way, to study their habitat use, their habits, and their spawning grounds. And, again, I think this is fertile area to explore in terms of some broader restoration strategies that might be considered down the road. (0002-4-6 [DeLuca, Mike])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative strategies, however, resulting from any construction and/or operational effects on aquatic resources will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: The Estuary Enhancement Program has done a phenomenal job of creating substantial new areas of high quality wetland habitat, which very definitely has an impact on, in particular, juveniles of a wide variety of aquatic species, and nutrient flow, in the area. And it, really, is a phenomenal laboratory at this point for understanding the importance of, and the development of, those types of habitats. Most of those habitats were much less productive prior to the work that PSEG engaged in, having been really run over by exotic phragmites. That made them much less valuable as natural systems than they are today. (0002-5-2 [Duvall, Brian])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on aquatic resources will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: And the Salem PSEG, they have a nice new facility over there, they have a display on the environment, and they have a nice little window, outside. But to be truly environmentally concerned, you would go through and stop the fish kill caused by your facility. To be a responsible member of society, and to stop that damage at your existing facilities. And the moral code, and the principle we should all live by, is that if something is causing harm, it should be stopped. And if you look at it in that basic principle, then they should stop killing the fish at Salem I and II. It is destroying the fishing industry, so you are losing jobs. (0002-6-13 [Schneider, Richard])

Response: *Any potential impacts on aquatic resources due to construction and/or operation of this facility will be discussed in EIS sections 4.3.2 and 5.3.2.*

Comment: And I spoke with some Nuclear Regulatory Commission people tonight. And I have a major concern, that when the Nuclear Regulatory Commission does an evaluation of an existing permit, or a new permit, the issue of water intake, for the cooling system, is left up to the state, as a state permit. I spoke with a gentleman from the Nuclear Regulatory Commission, and he says it is above his ability to change the rulings, that the EPA has made about this issue. But I feel that it should be part of the Nuclear Regulatory Commission's when they evaluate the water intake, for two reasons. Because NRC is a nuclear, is a federal agency. A federal agency applies to any issue that affects more than one state. The fish kill caused by these facilities affects more than one state, it affects the fishermen in Delaware, in Maryland, in Pennsylvania, in New Jersey, and all up and down the coast, where the fish would have gone, and traveled, and be caught by other people. So therefore the NRC needs to be involved with a federal ruling on it, and not be involved with the water permit. So I'm asking the NRC to talk to the people above them to pursue that. (0002-6-18 [Schneider, Richard])

Response: *The NRC's regulatory authority includes providing for the adequate protection of public health and safety and the common defense and security, as defined by the Atomic Energy Act. The NRC does not possess authority to act with respect to an issue simply because it involves an interstate matter. Pursuant to NEPA, however, the NRC does examine the reasonably foreseeable environmental impacts attributable to a proposed licensing action regardless of state lines. Subsequently, any potential impacts on aquatic resources due to construction and/or operation of this facility will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: And then, also, the Federal Clean Water Act applies to the fish kill. In the 1970s the Federal Clean Water Act, said that you must use the best technology available to stop the fish kill. This facility, Salem I and II, is killing the fish. And they are not using the best available technology. So, therefore, the federal agency overseeing the nuclear plant, which is the NRC, needs to enforce that particular law. It is a federal law, the Clean Water Act. So, again, I ask the NRC to pursue having open or closed loop systems. (0002-6-20 [Schneider, Richard])

Response: *Any operational impacts due to the cooling water system will be discussed in EIS Section 5.3.2.*

Comment: Construction of a new nuclear facility and access road at this location will result in the damage of wetlands and have adverse effects on a variety of aquatic life, bird life and wildlife. (0003-4 [Batty, Sandy] [Dillingham, Tim] [Galletto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Response: *Any potential effects of construction activities on aquatic resources will be discussed in EIS Section 4.3.2.*

Comment: A new plant will provide an excellent opportunity to incorporate new technology, hopefully, to produce cleaner, safer energy especially if a cooling tower is

incorporated to significantly reduce bay water usage, impingement and entrainment of aquatic biota and the impact of large quantities of elevated temperature water reentering the estuary. [I know of no scientific study that proves that the present cooling process at Salem has had a negative impact on the estuary.] (0008-6 [Lacandro, Roger])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Potential impacts of the cooling water system including entrainment, impingement, and thermal discharges on aquatic resources, however, will be discussed in Section 5.3.2.*

Comment: 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 attracted 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 Estuarine Enhancement project in the world. 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. (0010-5 [Applegate, Jim])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on aquatic resources will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: Returning to the purpose of this hearing. 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. (0010-7 [Applegate, Jim])

Response: *Any potential impacts on aquatic resources due to construction will be addressed in EIS Section 4.3.2. Mitigative actions relative to the estuarine enhancement program will also be discussed in Section 4.3.2.*

Comment: 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. (0011-9 [Molzahn, Robert])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Potential effects of the cooling water system on aquatic resources, however, will be evaluated in Section 5.3.2.*

Comment: 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. Additional lands targeted for acquisition through a land right exchange to the north of the site are part of an existing Army Corps of Engineers Confined Disposal Facility area (CDF) that is surrounded by dikes and not open to tides. PSEG would reduce environmental impacts by placing permanent facilities inside these 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. (0011-12 [Molzahn, Robert])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on wetlands and aquatic resources will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: In addition, I urge that the cumulative ecological impacts of alternative energy generating sources be included in the Environmental Impact Statement (EIS) in order to show that by comparison nuclear energy is a far preferable option. (0012-2 [Eastman, Ajax])

Response: *Cumulative ecological impacts and alternative energy sources will be discussed in EIS Chapters 7 and 9, respectively.*

Comment: After reviewing the Estuary Enhancement Program by PSEG, I am impressed by their innovative mitigation measures such as wetland restoration, phragmites control, fish protection at the reactor sites, restoration of anadromous fish migration through fish ladders, research, etc. These programs have resulted in long-lasting benefits for the saltwater estuary including, expanded biological diversity and habitats, breeding areas, food sources for aquatic, terrestrial, and avian species, especially threatened and endangered species, and better water quality. This leads me to believe that PSEG will do an excellent job of mitigation in the future. (0012-14 [Eastman, Ajax])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on wetlands and aquatic resources will be evaluated in Sections 4.3.2 and 5.3.2.*

Comment: Before addressing the new construction, I would point out PSEG's past efforts to mitigate the effects of its operations on the aquatic environment in the Salem vicinity. In particular, faced with concerns of negative impacts on fisheries by cooling water intake operations, PSEG responded with the largest private wetlands restoration project in the world. The Estuary Enhancement Program began in 1994 and since that time has been a large scale effort to restore and preserve portions of the Delaware Estuary in both New Jersey and Delaware. PSEG has restored, enhanced, and/or preserved more than 20,000 acres of salt marsh and adjacent uplands to vital, healthy habitat for fish and wildlife.

Restoration efforts have included the goal of replacing former salt hay farms and marshes dominated by invasive *Phragmites australis* with salt cord grass-dominated marsh. The Academy has studied many of these sites prior to restoration and visited a number afterwards. The Estuary Enhancement Program has been successful in restoring typical salt marsh conditions at the sites, with most sites meeting targets for reduction in *Phragmites* and establishment of salt cordgrass. Many of these and related studies have been published in various peer-reviewed scientific journals. (0014-4 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative and restoration actions, however, resulting from any construction and/or operational effects on wetlands and aquatic resources will be evaluated in Sections 4.3.2 and 5.3.2.*

Comment: In looking at the proposed new construction on the PSEG Site, I will be speaking primarily to specific projected ecological impacts on local aquatic systems. The natural systems of Delaware River and Estuary are critical environments with major significance for both regional and global biodiversity, for regional water supply and water quality, and for supporting important economic activities. Construction on the scale proposed by PSEG on the Delaware coast requires careful consideration of environmental factors. (0014-2 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any effects of construction, however, on aquatic resources of the Delaware Bay ecosystem will be evaluated in Section 4.3.2.*

Comment: Before addressing the new construction, I would point out PSEG's past efforts to mitigate the effects of its operations on the aquatic environment in the Salem vicinity. In particular, faced with concerns of negative impacts on fisheries by cooling water intake operations, PSEG responded with the largest private wetlands restoration project in the world. The Estuary Enhancement Program began in 1994 and since that time has been a large scale effort to restore and preserve portions of the Delaware Estuary in both New Jersey and Delaware. PSEG has restored, enhanced, and/or preserved more than 20,000 acres of salt marsh and adjacent uplands to vital, healthy habitat for fish and wildlife.

Restoration efforts have included the goal of replacing former salt hay farms and

marshes dominated by invasive *Phragmites australis* with salt cord grass-dominated marsh. The Academy has studied many of these sites prior to restoration and visited a number afterwards. The Estuary Enhancement Program has been successful in restoring typical salt marsh conditions at the sites, with most sites meeting targets for reduction in *Phragmites* and establishment of salt cordgrass. Many of these and related studies have been published in various peer-reviewed scientific journals. (0014-4 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on the aquatic resources of wetland ecosystems will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: The proposed new construction will permanently impact approximately 229 acres of wetland. While protection of wetland is a high national priority (as demonstrated by Section 404 of the Clean Water Act), the majority of the wetland acreage impacted by the new construction has a degraded hydroperiod and now hosts a monoculture of *Phragmites australis*. An invasive reed grass, *Phragmites* is often found in disturbed marsh areas, where plant communities, hydrology and topography have been altered. *Phragmites* displaces native plants and has a negative impact on biodiversity. Targeting these degraded wetlands in close proximity to existing PSEG facilities will reduce the need for new infrastructure, minimizing the environmental disturbance that would result if development occurred in “Greenfield” sites. Moreover, the amount of wetlands impacted represents a small fraction of the total wetland - many with higher quality functions - present in the vicinity of the construction.

In addition, 85 acres of the wetland being permanently altered by the construction are located in the U.S. Army Corps of Engineers Combined Disposal Facility (CDF.) This has been the site for dumping of dredge spoils from deepening of the Delaware River Channel. It is surrounded by dikes and is not open to tidal influences. It is unlikely that this site supports high level wetland functions and utilizing it where permanent construction is necessary will limit overall wetland impacts. (0014-6 [Velinsky, David])

Response: *Impacts as a result of construction including potential impacts to wetlands will be discussed in Section 4.3. of the EIS. Mitigative actions, proposed by the applicant, as a result from any construction effects on aquatic resources will be addressed in Section 4.3.2. In addition, the U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange and relocation of the confined disposal facility, will be discussed in EIS.*

Comment: PSEG is making acceptable efforts to restrict impact on these wetlands, including a site plan to minimize encroachment, the use of sediments pits to stage some of the construction operations, and the use of a raised causeway rather than using fill material to carry the access road to the new site. Where permanent disturbance to wetland occurs, PSEG has outlined a mitigation plan that should create new wetland environments in adequate amounts to offset any loss. We anticipate that the resources and expertise developed in the EEP will provide a

foundation for the mitigation steps being taken by PSEG in the new site construction, both in selecting the mitigation sites and in managing the restored and enhanced wetland sites. (0014-8 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction effects on wetlands will be evaluated in Section 4.3.2.*

Comment: The basic restoration activities developed by the EEP, particularly controlling Phragmites and fostering development of good tidal marsh topography and hydrology, have advanced the field of ecological restoration. The ecological engineering technique of forming primary channels and using estuarine processes to further develop channels and topography is especially notable. As such, the Estuary Enhancement Program has provides an important model for marshland restoration which is an important component of PSEG's proposed mitigation plan. (0014-10 [Velinsky, David])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Mitigative actions, however, resulting from any construction and/or operational effects on wetlands and tidal marshes will be discussed in Sections 4.3.2 and 5.3.2.*

Comment: Therefore, DRN urges NRC to review certain issues in more detail, including: clearer evaluation of PSEG's use of the Army Corps confined disposal facility, and cumulative impacts resulting from use of that site; water impacts including dredging and construction impacts; filling of wetlands; floodplain impacts; habitat impacts and impacts to species, especially Atlantic sturgeon; and impacts and evaluation of alternatives for cooling systems. (0018-4 [Brown, Elizabeth])

Response: *The U.S. Army Corps of Engineers-Philadelphia District is a Cooperating Agency on the EIS for PSEG's ESP application. As such, the environmental impacts of any actions proposed by the Corps to facilitate PSEG's ESP application, including the land exchange and relocation of the confined disposal facility, will be discussed in EIS. Potential cumulative impacts as a result of the proposed project will be evaluated in Chapter 7.*

Comment: Impacts to habitat and important aquatic species must also be rigorously evaluated in the EIS. In particular, DRN is concerned with the impact of the Project on Atlantic sturgeon. The ER acknowledges that appropriate habitat for juvenile Atlantic sturgeon exists in the project area, that direct impacts to Atlantic sturgeon could include exposure to fine sediments, or collisions with propellers or water borne equipment, and that "dredging activities will likely displace this and other fish from the immediate dredge zone."

Since the preparation of the ER, NOAA's National Marine Fisheries Service (NMFS) issued a proposed rule (October 6, 2010) to list five distinct population segments (DPS) of the Atlantic sturgeon as threatened or endangered under the Endangered Species Act (ESA). In recognition of the many threats to riverine habitat, including dredging, filling, and degraded water quality, facing Atlantic sturgeon in the Hudson and Delaware

Rivers, NMFS proposed to list a DPS consisting of these populations, the New York Bight (NYB) DPS, as endangered. See, 75 Fed. Reg. 61,872 at 61,881 (Oct. 6, 2010). We also note with alarm that the Delaware River population of Atlantic sturgeon is more precariously poised than the Hudson River population, according to research on the record. According to the Delaware River State of the Basin Report, 2008, which is based on science collected in the region, the status of the Atlantic Sturgeon is considered "poor and getting worse" with numbers "estimated to be less than 1,000 and probably less than 100 across the Estuary." Furthermore, there is scientific evidence that the Delaware River is home to a genetically unique population of Atlantic Sturgeon, and that this small but distinct population is currently reproducing. That the Delaware River population is not only genetically unique but also may have a population of fewer than 100 fish makes protection of this portion of the NYB DPS a critical priority.

This change in status means that a critical piece of information is missing from the ER, and must be evaluated fresh in NRC's creation of the EIS. (0018-13 [Brown, Elizabeth])

Response: *Potential impacts of construction and operation of the proposed facility as they relate to threatened or endangered species such as the Atlantic sturgeon will be evaluated in Sections 4.3.2 and 5.3.2.*

Comment: Although the water volume withdrawn from the Delaware River by the closed cycle new plant is substantially lower, there will still be impingement and entrainment of aquatic life, as well as potentially significant thermal impacts from the closed-cycle cooling system. Maximum intake of the new plant is estimated in the ER to be equivalent to 3.7 percent of the intake flow of once-through cooling at the existing Salem facility. However, regarding thermal discharge, the new plant discharge is located within the region already influenced by the thermal discharges of the existing Salem and Hope Creek facilities. The impact of this situation on thermal plume must be fully and rigorously evaluated in the EIS, regardless of any applicable mixing zone. (0018-17 [Brown, Elizabeth])

Comment: In addition to the steps being taken to protect the wetlands impacted by construction, the aquatic impacts of the proposed facility will be limited by the use of a closed cycle cooling system. Compared to a once-through system, these cooling towers will divert much less water for cooling. Projected maximum diversion for the new facility is less than 4% of the current amount used by the Salem Generating Station and is a very small fraction the total volume of the Delaware River flow. As a result, impingement of fish populations will be a small fraction--less than 3% of the current level of the Salem station.

Because of the closed cooling system, we would also expect the thermal plume of the new plant to be localized and relatively small, with no significant impact on the local aquatic biota. The conclusion is based on past studies of the impact of thermal plumes from the existing PSEG generating plants, the expected operation of the proposed cooling structures, and our understanding of the ecology of aquatic species in the vicinity of the plant. (0014-12 [Velinsky, David])

Response: *Potential impacts related to entrainment, impingement, and thermal discharges of the proposed facility on aquatic resources will be discussed in Section*

5.3.2 of the EIS. Also, potential cumulative impacts due to operation of the closed-cycle cooling system will be addressed in Chapter 7.

Comment: Clearly, the EIS will need to address the impact of dredging and related shoreline disturbance and take all viable alternatives into account. (0018-21 [Brown, Elizabeth])

Response: *Potential impacts of construction activities such as dredging and shoreline disturbances will be evaluated in Section 4.3.2 of the EIS. In addition, alternatives will be discussed in Chapter 9.*

Comment: The New Jersey Division of Fish & Wildlife (DFW) continues to be concerned with the issue of impingement and entrainment of the eggs, larval forms, juveniles and adults of the fish, shellfish and other invertebrate species which exist in the Delaware River Estuary.

Six species of invertebrates occurring near the PSEG Site have been harvested commercially in NJ to include -blue crab, eastern oyster and other shellfish.

Environmental Report, CHAPTER 6, ENVIRONMENTAL MEASUREMENTS AND MONITORING PROGRAMS, 6.5.3.2 Aquatic Ecology -includes proposals for monitoring programs to include impingement sampling and entrainment sampling at the new intake for fish and shellfish species.

At present the 1995 -2009 BIOLOGICAL MONITORING PROGRAM ANNUAL REPORT; include data on finfish and blue crabs. The DFW feels that data on shellfish should be included in this report and in the pre-application, construction, pre-operational and operational monitoring.

The possible additional withdrawal of 78,196 gpm from the Delaware River for the CWS and SWS only adds to the existing concerns the DFW has for the impingement and entrainment of the eggs, larval forms, juveniles and adults of the fish, shellfish and other invertebrate species which exist in the Delaware River Estuary. (0019-23 [Brubaker, Scott])

Response: *Potential operational impacts such as entrainment and impingement on aquatic organisms will be discussed in Section 5.3.2 and the potential cumulative effects of all facilities operating at the Salem-Hope Creek site will be evaluated in Chapter 7.*

Comment: General Comments

The permittee included various estimates of projected impingement and entrainment values for the proposed system. Impingement and entrainment can be assessed by a wide variety of tools and it is not possible to comment on the accuracy of these estimates without understanding more regarding the underlying assumptions. However, as noted above, the Department supports the use of closed cycle cooling as best technology available to minimize water withdrawal rates.

The Department recognizes that the proposed closed cycle cooling system using cooling towers and a low intake velocity of less than 0.5 feet per second constitutes the best

technology available for minimizing impingement and entrainment impacts under Section 316(b) of the Clean Water Act. (0019-25 [Brubaker, Scott])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any potential impacts, however, related to entrainment and impingement will be discussed in Section 5.3.2.*

Comment: B - The ESPA includes only a cursory and simplistic evaluation of the potential impacts to the aquatic ecosystem (water quality, biota, wetlands, etc.) that could result from the construction and operation of the proposed project (Chapter 3 of the Environmental Report). Likewise, measures to mitigate such impacts are described in only a general manner. In general, the detailed evaluation of potential impacts is relegated to future permit and other approval actions. (0020-3 [Brubaker, Scott])

Response: *Potential impacts on aquatic ecosystems due to construction and/or operation of the proposed facility and mitigation of such potential impacts will be discussed in Sections 4.3.2 and 5.3.2 of the EIS.*

Comment: (8) ER Section 4.1.2.2, page 4.1-7: indicates that dredged material from the USACE Artificial Island CDF and from dredging activities associated with the intake and barge facility areas would be used as fill material on-site.

At a May 9, 2010 meeting with the NJDEP, PSEG representatives indicated that dredging of ~975,000 cubic yards of sediments from the Delaware River would be needed to support the project - this has apparently been reduced to ~ 590,000 CY (see Comment #9). All dredging and dredged material management activities associated with the construction of the proposed project must be described and comprehensively evaluated. This would include testing of dredged material consistent with the requirements of the 1997 NJDEP Dredging Technical Manual. The documents submitted in support of the ESPA barely discuss dredging and dredged material aspects of the proposed project. Section 2.3.1 of the Environmental Report only briefly summarizes some Delaware River sediment samples collected in the vicinity of the project site and subjected only to grain size analyses.

Dredging and dredged material management activities will also require a variety of permits from the NJDEP, including a CZM Consistency Determination. The use of any dredged material as on-site fill - including material excavated from the USACE Artificial Island Upland CDF - will require an Acceptable Use Determination from the Department.

At the May 9, 2010 meeting, it was also stated that construction of a new dredged material upland CDF on the PSEG property may be needed. If still needed, the potential impacts of the construction and use of such a facility must also be comprehensively evaluated and approved by the Department, consistent with the requirements specified in the 1997 NJDEP Dredging Technical Manual. (0020-9 [Brubaker, Scott])

Response: *Any potential impacts of construction activities such as effects of dredging on aquatic resources will be discussed in Section 4.3.2.*

Comment: (9) ER, Section 4.2.1.1.4, page 4.2-5: briefly describes construction and dredging activities along the Delaware River shoreline. A total area of 92 acres - approximately 590,000 CY of sediment - is proposed to be dredged. The document concludes that impacts associated with dredging are small. However, much more work is needed to comprehensively evaluate the potential impacts resulting from dredging and dredged material management activities - see Comment #8. (0020-12 [Brubaker, Scott])

Response: *Any potential impacts on aquatic ecosystems resulting from construction activities such as dredging will be discussed in Section 4.3.2.*

Comment: (10) ER, Section 4.2.3.1, page 4.2-13, para #2: states that "Based on the findings of the USACE's Delaware River main channel deepening project Environmental Assessment, dredging is not expected to result in degradation of water quality." The evaluation of potential impacts presented in the referenced Environmental Assessment are of little relevance to the evaluation of the potential impacts of dredging and dredged material management activities associated with the proposed PSEG project. (0020-14 [Brubaker, Scott])

Comment: (12) ER, Section 4.3.2.3, page 4.3-19, para. #3: see Comment #9. The ~590,000 CY of sediments to be dredged have not been tested/evaluated, nor has a disposal site been selected. (0020-17 [Brubaker, Scott])

Response: *Any potential impacts of construction activities such as dredging on aquatic resources will be discussed in Section 4.3.2.*

Comment: (13) ER, Section 4.3.2.3, page 4.3-19, para. #3: concludes that impacts associated with dredging activities are small; see Comment #9. (0020-19 [Brubaker, Scott])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any construction impacts, however, on ecological resources will be discussed in Section 4.3.2.*

Comment: (13) ER, Section 4.3.2.3, page 4.3-19, para. #3: concludes that impacts associated with dredging activities are small; see Comment #9. (0020-19 [Brubaker, Scott])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any impacts associated with dredging, however, on aquatic resources will be discussed in Section 4.3.2*

Comment: (14) ER, Section 4.3.2.5, page 4.3-21, paras. #1 and #2: briefly discuss potential impacts to a variety of fish, including T/E species that could result from construction of the proposed project - particularly as a result of dredging activities. The ER must also consider the various dredging windows that have been established in the Delaware River and Estuary when evaluating potential project impacts. (0020-21 [Brubaker, Scott])

Response: *Potential effects of dredging activities on fish populations in the Delaware River and estuary will be discussed in Section 4.3.2.*

Comment: (15) ER, Table 4.6-1: regarding potential measures to mitigate potential water quality and aquatic ecosystem impacts resulting from dredging and dredged material management activities - see Comments #9 and #14. (0020-23 [Brubaker, Scott])

Response: *Measures to mitigate potential aquatic ecosystem impacts resulting from dredging and dredged material management activities will be discussed in Section 4.3.*

Comment: (17) Section 5.1.1.1, page 5.1-1, para. #2: briefly discusses dredging activities that may be needed during operation of the proposed facility, and concludes that - since the dredged material will be disposed of in approved upland areas - any resulting impacts will be small. See Comments #8 and #9. [Also see Sections 5.2.1.2 and 10.5.2.1] (0020-26 [Brubaker, Scott])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Any impacts due to construction activities such as dredging on aquatic resources will be evaluated, however, in Section 4.3.2.*

Comment: Impacts to the quality of surface waters and the alteration of river bottom sediments within the Delaware River and adjacent marsh creeks are expected as a result of the construction and operation of the proposed facility, and will include those associated with the development of shoreline features (intake structure, barge facility, heavy haul road), dredging of sediments from the near-shore area of the Delaware River to provide for water intake and discharge and to provide adequate draft for barge access during construction, and the filling of 9.5 acres of coastal tidal wetlands and shallow open water areas. (0022-2 [Gorski, Stanley])

Response: *Potential impacts due to construction and operation of the proposed facility on aquatic ecosystems will be discussed in Sections 5.3.2 and 4.3.2.*

Comment: Increases in turbidity through the resuspension of sediments into the water column from dredging and port operations will degrade water quality, lower dissolved oxygen levels, and potentially release chemical contaminants bound to the fine-grained estuarine/marine sediments. Sedimentation and wave patterns in the area may be altered as a result of vessels entering and exiting the proposed mooring area also resulting in increased turbidity. Suspended sediments mask pheromones used by migratory fishes, and can smother immobile benthic organisms and demersal newly-settle juvenile fish (Auld and Schubel 1978; Breitburg 1988; Newcombe and MacDonald 1991; Burton 1993; Nelson and Wheeler 1997). As supported above, the project area provides important habitat for striped bass including valuable spawning grounds and nursery habitat. Increases in turbidity will adversely affect striped bass larvae's ability to capture prey (Fay et al. 1983 in Able and Fahay 1998). The decrease in water circulation can also adversely affect striped bass survival as strong current is needed to keep the eggs suspended in the water column and prevent them from being smothered by silt (Bigelow and Schroeder 1953). (0022-4 [Gorski, Stanley])

Response: *Any potential effects of dredging activities such as increases in turbidity and alteration of water circulation on fish and benthic organisms will be discussed in Section 4.3.2.*

Comment: Guidelines under Section 404(b)(1) of the federal Clean Water Act require that actions proposed within waters of the United States, especially those that are not water-dependent, are required to demonstrate that they have considered all appropriate reasonable and prudent measures to avoid and minimize impacts to waters. If all measures to avoid and minimize wetland impacts have been considered and employed to the extent practicable and result in unavoidable impacts, a compensatory mitigation plan should be developed and implemented.

The applicant should undertake a complete analysis of alternatives that complies fully with the Clean Water Act Section 404 (b)(1) Guidelines that documents avoidance, minimization and mitigation for all impacts. Alternate locations as well as a documentation of purpose and need should be provided as part of this analysis. For any unavoidable impacts, a compensatory mitigation plan to offset all of the projects impacts to aquatic resources including EFH should be developed in accordance with the federal standards and criteria for compensatory mitigation for losses of aquatic resources published in the Federal Register on April 10, 2008 (vol. 73 No. 70). This plan should be developed as early in the permit process as possible and in consultation with the applicable federal, state and local resource agencies and will be implemented on and in the immediate area of the PSEG Site to the extent practicable. (0022-6 [Gorski, Stanley])

Response: *Potential impacts on aquatic ecosystems, including wetlands, due to construction and/or operation of the proposed facility and mitigation of such potential impacts will be discussed in Sections 4.3.2 and 5.3.2 of the EIS. In addition, alternative energies will be discussed in Chapter 9.*

Comment: Able, K.W. and M.P. Fahay. 1998. The first year in the life of estuarine fishes in the Middle Atlantic Bight. Rutgers University Press, New Brunswick, New Jersey. 342 pp.

Atlantic Sturgeon Status Review Team. 2007. Status review of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). Report to the National Marine Fisheries Service. Northeast Regional Office. February 23, 2007. 174 pp.

Auld, A.H. and J.R. Schubel. 1978. Effects of suspended sediments on fish eggs and larvae: a laboratory assessment. *Estuar. Coast. Mar. Sci.* 6: 153-164.

Bigelow, H.B. and Schroeder. 1953. Fishes of the Gulf of Maine. U.S. Fish and Wild. Servo Fish. Bull. 74 :1-517.

Breitburg, D.L. 1988. Effects of turbidity on prey consumption by striped bass larvae. *Trans. Amer. Fish. Soc.* 117: 72-77.

Buckel, J.A. and D.O. Conover. 1997. Movements, feeding periods, and daily ration of piscivorous young-of-the-year bluefish, *Pomatomus saltatrix*, in the Hudson River estuary. *Fish. Bull. (U.S.)* 95(4):665-679 .

Burton, W.H. 1993. Effects of bucket dredging on water quality in the Delaware River and the potential for effects on fisheries resources. Prepared for: Delaware Basin Fish and Wildlife Management Cooperative, by Versar Inc, Columbia MD.

Fahey, M.P. , P.L. Berrien, D.L. Johnson and W. W. Morse. 1999. Essential Fish Habitat Source Document: Bluefish, *Pomatomus saltatrix* life history and habitat characteristics. U.S. Dep. Commer., ~NOAA Technical Memorandum NMFS-NE-144. /

Fay, C.W., R.J. Neves and G.B. Pardue. 1983. Striped bass. Species profiles: life histories and environmental requirements of coastal fish and invertebrates (Mid-Atlantic). National Coastal Ecosystem Team. U.S. Fish and Wildlife Service. Washington, DC.

Hastings, R.W., J.C. O'Herron, K. Schick and M.A. Lazzari. 1987. Occurrence and distribution of shortnose sturgeon, *Acipenser brevirostrum*, in the upper tidal Delaware River. *Estuaries* 10(4):337-341.

Lazzari, A. M., J.E. O'Herron and R. W. Hastings. 1986. Occurrence of juvenile Atlantic sturgeon, *Acipenser oxyrinchus*, in the upper tidal Delaware River. *Estuaries* 9(4B): 356-361.

Nelson DA, Wheeler JL. 1997. The influence of dredging-induced turbidity and associated contaminants upon hatching success and larval survival of winter flounder, *Pleuronectes americanus*, a laboratory study. Milford (CT): Connecticut Department of Environmental Protection. Final Report on Grant CWF #321-R. 57 p.

Newcombe, C.P. and D.D. MacDonald. 1991. Effects of Suspended Sediments on Aquatic Ecosystems. *North American Journal of Fisheries Management*. 11: 72-82.

O'Herron. J.C., K.W. Able and R.W. Hastings. 1993. Movements of shortnose sturgeon in the Delaware River. *Estuaries* 16(2):235-240.

Ryder, J.A. 1888. The sturgeon and sturgeon industries of the Eastern U.S., with and account of experiments bearing on sturgeon culture. *Bulletin of the U.S. Fisheries Commission*. 1888. p.231-281.

Schuyler, A.E. 1988. Submergent and planmergent flora of the freshwater portion of the Delaware Estuary. Chapter 10. In: S.K. Majumdar, E.W. Miller and L.E. Sage (Eds.), *Ecology and Restoration of the Delaware River Basin*. PA. Academy of Science, Easton, PA. (0022-15 [Gorski, Stanley])

Response: *The comment is noted. The NRC staff will consider the scientific studies referenced in the comment as part of the environmental review.*

Comment: Endangered and Threatened Species

The Atlantic sturgeon (*Acipenser oxyrinchus*) may be found in the Delaware River in the vicinity of the project area at certain times of the year. On October 6, 2010, NOAA issued a Federal Register Notice (75 FRN 61872). The notice identifies the Hudson River and Delaware River Atlantic sturgeon stocks as a distinct population segment (DPS) called the New York Bight DPS. This DPS has been proposed to be listed as endangered. The Atlantic Sturgeon Status Review Team (ASSRT) identified 15 different

stressors that may impact the Atlantic sturgeon populations including poor water quality and habitat loss (2007). Dredging and vessel strikes are also considered to be important stressors on the populations of Atlantic sturgeon (75 FRN 61872 et seq.) According to the ASSRT (2007), Ryder (1888) suggested that juvenile Atlantic sturgeon used the tidal freshwater reach of the Delaware River as a nursery area and Lazzari et al. (1986) frequently captured juvenile Atlantic sturgeon from May -December in the upper tidal portion of the river below Trenton, New Jersey.

Shortnose sturgeon (*Acipenser brevirostrum*) typically occurs in deep water channels although they do occur in the shallower waters while foraging. The abundance of adult shortnose sturgeon is greatest in the tidal river from Trenton to Philadelphia (Hastings et al. 1987; O'Herron et al. 1993). In-water construction activities can affect shortnose and Atlantic sturgeon through direct injury or mortality, displacing species from the area, or by altering the habitat and destroying forage items.

Shortnose sturgeon (*Acipenser brevirostrum*) typically occurs in deep water channels although they do occur in the shallower waters similar to that of the project area while foraging. Any discretionary federal action, such as the approval or funding of a project by a Federal agency, that may affect a listed species must undergo consultation pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended. The NRC should submit its determination of effects, along with justification for the determination and a request for concurrence, to the attention of the Endangered Species Coordinator, NMFS, Northeast Regional Office, Protected Resources Division, One Blackburn Drive, Gloucester, MA 01930. For additional information on the Section 7 consultation process or shortnose sturgeon, please contact Julie Crocker at (978) 282-8480 or julie.crocker@noaa.gov. (0022-14 [Gorski, Stanley])

Response: *The NRC initiated informal consultation with the National Marine Fisheries Service (NMFS) for a list of species protected by the Endangered Species Act that are under the jurisdiction of NMFS and that NMFS believes to occur in the region of influence associated with construction and operation of the PSEG site. NRC will evaluate the impacts of construction and operation of the proposed facility on threatened and endangered species including the Atlantic and Shortnose sturgeon. These potential impacts will be discussed in Sections 5.3.2 and 4.3.2 of the EIS.*

Comment: Fish and Wildlife Coordination Act

Notwithstanding our mandates under the MSA, the NMFS also has responsibilities under the Fish and Wildlife Coordination Act (FWCA) to provide federal agencies such as the NRC with recommendations to avoid, minimize and to mitigate for direct, indirect and cumulative impacts to any and all NOAA trust resources that are present within the Delaware River Basin.

The Delaware Estuary including its tributaries provides habitat for a wide variety of NOAA trust resources including alewife (*Alosa pseudoharengus*), American eel (*Anguilla rostrata*) American shad (*Alosa sapidissima*), Atlantic croaker (*Micropogonias undulatus*), Atlantic menhaden (*Brevoortia tyrannus*), Atlantic sturgeon (*Acipenser oxyrinchus*), blueback herring (*Alosa aestivalis*), bluefish, hickory shad (*Alosa mediocris*), spot (*Leiostomus xanthurus*) tautog (*Tautoga onitis*), weakfish, white perch (*Morone americana*), yellow perch (*Perca flavescens*), striped bass (*Morone saxatilis*), hogchoker (*Trinectes maculatus*), killifish, bay anchovy, silversides, mummichog and

may others.

Because landing statistics and the number of fish observed on annual spawning runs indicate a drastic decline in alewife and blueback herring populations throughout much of their range since the mid-1960's, they have been designated as species of concern by NMFS in a Federal Register Notice dated October 17, 2006 (71 FRN 61022). Species of concern are those species about which NMFS has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act. The shallow water environment in this section of the Delaware River provides valuable habitat for these species as well as striped bass and American shad.

The New Jersey Department of Environmental Protection (NJDEP) also has sampled the Delaware River and Bay in the project area for nearly 30 years since 1980. This long-term survey documents the use of the this portion of the river by a wide variety of species including blueback herring, alewife, American shad American shad (*Alosa sapidissima*), American eel (*Anguilla rostrata*), Atlantic herring (*Clupea harengus*), Atlantic menhaden (*Brevoortia tyrannus*), bay anchovy, (*Anchoa mitchilli*), blueback herring, gizzard shad (*Dorosoma cepedianum*), hogchoker (*Trinectes maculatus*), striped bass, yellow perch (*Perca flavescens*), white perch (*Morone americana*), Atlantic silverside (*Menidia menidia*), and many others (NJDEP 2010). Many of these species are both commercially and recreationally important and managed by the ASFMC or are valuable prey species for ASFMC or federally managed fish.

Buckel and Conover (1997) in Fahey et al. (1999) reports that diet items of juvenile bluefish include *Alosa* species such American shad, blueback herring and alewife as well as bay anchovy, silversides and other fish species. We note that the NJDEP survey data show that federally managed bluefish are present in the project area. This indicates that both the prey species and the predator are present in the Delaware River in and around the project area. Juvenile *Alosa* species have all been identified as prey species for windowpane (*Scophthalmus aquosus*) and summer flounder (*Paralichthys dentatus*) in Steimle et al. (2000). Windowpane and summer flounder are federally managed species whose EFH has been designated in the mixing zone of the Delaware River.

Submerged aquatic vegetation (SAV) has historically been absent from Delaware Bay. However, to date, there has been no comprehensive mapping of SAV in the Delaware Estuary to verify its presence or absence. Several species have been observed though in the tidal river since 1970, including: *Vallisneria americana*, *Myriophyllum spicatum*, *Elodea nuttallii*, *Najasflexillis*, *Potamogeton* sp. and others (Schuyler, 1988). Wild celery (*Vallisneria americana*) has been documented i (0022-12 [Gorski, Stanley])

Response: *This comment provides general information relevant to some of the aquatic organisms present in the Delaware Bay but it does not provide any specific information related to the environmental effects of the proposed action. Any potential impacts, however, resulting from construction and/or operational effects on aquatic resources will be addressed in Sections 4.3.2 and 5.3.2 of the EIS.*

Comment: Magnuson Stevens Fishery Conservation and Management Act (MSA)

Section 305 (b)(2) of the 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act (MSA) requires all federal agencies to consult with

NOAA Fisheries on any action, including those proposed by the NRC, that is authorized, funded, or undertaken by that agency and that may adversely affect EFH. Included in this consultation process is the preparation of a complete and appropriate EFH assessment to provide necessary information on which to consult. Our EFH regulation at 50 CFR 600.905 mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

The estuarine portions of the Delaware River and its tributaries including the estuarine areas of both Alloway and Hope Creeks have been designated as EFH for a wide variety of species including red hake (*Urophycis chuss*), winter flounder (*Pseudopleuronectes americanus*), windowpane flounder (*Scophthalmus aquosus*), bluefish (*Pomatomus saltatrix*), Atlantic butterfish (*Peprilus triacanthus*), scup (*Stenotomus chrysops*), summer flounder (*Paralichthys dentatus*), scup (*Stenotomus chrysops*), black sea bass (*Centropristis striata*), king mackerel (*Scomberomorus cavalla*), Spanish mackerel (*Scomberomorus maculatus*), cobia (*Rachycentron canadum*), little skate (*Leucoraja erinacea*), winter skate (*Leucoraja ocellata*) and clearnose skate (*Raja eglanteria*). A more detailed listing of EFH and federally managed species and EFH consultation requirements can be found on our website at: www.nero.nmfs.gov/hcd.

The EFH final rule published in the Federal Register on January 17, 2002 defines an adverse effect as: any impact which reduces the quality and/or quantity of EFH. The rule further states that:

"An adverse effect may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat and other ecosystems components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from action occurring within EFH or outside EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions."

The rule also states:

"Loss of prey may be an adverse effect on EFH and managed species because the presence of prey makes waters and substrate function as feeding habitat and the definition of EFH includes waters and substrate necessary to fish for feeding. Therefore, actions that reduce the availability of a major prey species, either through direct harm or capture, or through adverse impacts to the prey species' habitat that are known to cause a reduction in the population of the prey species, may be considered adverse effects on EFH if such actions reduce the quality of EFH."

In order to initiate consultation pursuant to the MSA, the NRC must submit a full and complete EFH assessment that considers the individual and cumulative and the direct and indirect impacts of the proposed project on EFH, federal managed species and their prey recognizing the definition of adverse impact discussed above. The required contents of an EFH assessment includes: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) the NRC's conclusions regarding the effects of the action on EFH; 4) proposed mitigation, if applicable. Given the scope of this project, other information that should be contained in the EFH assessment includes: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information;

and 5) an analysis of alternatives to the action that could avoid or minimize the adverse (0022-10 [Gorski, Stanley])

Response: *The NRC initiated informal consultation with the National Marine Fisheries Service (NMFS) for a list of species protected by the Endangered Species Act that are under the jurisdiction of NMFS and that NMFS believes to occur in the region of influence associated with construction and operation of the PSEG site. Correspondence with NMFS will also occur for the presence of essential fish habitat (EFH). NRC intends to include an EFH assessment in the EIS. In addition, any potential impacts of construction and/or operational activities on the fish populations of the Delaware estuary will be addressed in Sections 4.3.2 and 5.3.2 of the EIS.*

Comment: ER Page 27 of 136-Hydrological Alterations

"Dredged material removed as part of this construction activity will be transported to and placed in an on-site or other approved upland disposal facility."

Does the licensee plan on expanding the REMP program to include air particulate/iodine monitoring, surface water runoff, or soil sampling in the area of this CDP (if onsite area is used for materials)? An air monitoring site should be placed downwind of the CDP based on annual meteorological direction (SE). Also, will there be expanded ground water monitoring in the vicinity of the CDF?

Once complete, sampling locations near the intake and discharge canals will be needed, especially for media such as aquatic biota and sediment. Since the structures are upstream in the Delaware, PSEG will need to rethink their existing collection location north of the plant that is considered, 'control'. This site may need to be moved further upstream. (0019-4 [Brubaker, Scott]) (0019-5 [Brubaker, Scott])

Response: *Any potential impacts due to construction activities such as dredging on aquatic ecosystems will be addressed in Section 4.3.2 of the EIS. Sampling locations for aquatic ecology monitoring will be addressed in Section 4.3.2.4. Finally, regarding the comment to expand the current Radiological Environmental Monitoring Program (REMP) in place for the operating reactors Salem/Hope Creek as a result of construction of the proposed facility, will be discussed as part of the staff's evaluation in Chapter 4 of the EIS.*

2.11 Comments Concerning Socioeconomics

Comment: And if you want to create jobs in this state, here, the way to do it is build solar farms, build wind farms. Build two new cooling towers at Salem I and II. They will create hundreds of construction jobs. And, also, you will create fishing jobs, which add up to thousands and thousands of jobs. That should be the approach, also, that should be considered in the overall discussion of this issue. (0002-6-16 [Schneider, Richard])

Response: *The NRC is not involved in establishing employment programs or policy nor in promoting employment opportunities within any state; rather, it regulates nuclear energy to protect public health and safety within existing policy. Nevertheless, the potential impacts of constructing a nuclear unit(s) at the PSEG site, including the impacts associated with employment, will be evaluated in Chapter 4 of the EIS.*

Comment: Building a new plant means local jobs, and it would drive business to our little town. (0001-1-1 [Davis, Robert])

Comment: This new application represents the principles in which the county's economic development strategy is based on. And that being green technology, and construction methods, sustainability, focus location on preservation of open space, regional cooperation, creation of a wide range of employment opportunities, reduction in property taxes, and transparent and civil involvement. (0001-12-2 [Kugler, John])

Comment: I would just like to mention a few things, that the key facts would be related, if this application is approved. They would generate roughly 430 million in sales of goods and services, in the local community. It would create an additional 40 million dollars in total labor income, for the new unit. This plant would create approximately 450 new permanent jobs, that are so desperately needed in Salem County. While under construction it would be roughly 15 to 2,000 construction jobs that would be created. The plant would generate roughly 20 million dollars in state and local tax revenue. There would be educational opportunities, and local infrastructure benefits from the tax revenues. And the facility would roughly generate 75 million in federal tax payments annually. (0001-12-3 [Kugler, John])

Comment: And in these difficult economic times, the development of a new nuclear facility would provide much needed job growth. The construction phase, as was mentioned by Jack, creates 1,400 to almost 2,000 jobs. And when completed, the facility would employ over 450 jobs in local, high paying jobs. Every year nuclear plants generate approximately 430 million in sales of goods and services to the local community, not to mention their significant tax benefits that benefit local infrastructure, public services, and schools. (0001-13-12 [Salmon, Edward])

Comment: With unemployment in the county hovering around 12 percent, the economic possibilities of this expansion cannot be understated. (0001-15-2 [Gaye, Earl])

Comment: Construction of a new plant would also be very good for the local economy. Building a new plant would result in the creation of thousands of jobs for the construction side of the house. And, afterwards, up to 700 permanent jobs, that pay about 36 percent more than the average salaries in the area. Salem County is a rural community at heart, with very few industries, and very few jobs to offer. If you are fortunate, as our members, and myself, and all others in the company are, PSEG is the place to work. Building a new plant opens doors of opportunities for stable employment, a better career, and a better life for thousands of people in the area. (0001-17-6 [Hassler, Charles])

Comment: The potential construction of a new plant would mean so much to Salem County, with the increase of hundreds of permanent local jobs, in addition to just on the site, with a ripple effect on other businesses, restaurants, hotels, clothing stores, and other vendors of that nature, would truly benefit. There probably isn't a family, in Salem County, who doesn't benefit, at least indirectly, from the economic impact that PSEG now has, and the increase in their effect in the future would only be a plus. The dollars

that are invested here would be unprecedented, and would contribute to increased prosperity and economic development in Salem County for many years to come. (0001-18-5 [Duffy, Brian])

Comment: Construction of an additional nuclear facility and access road on this location will impact the health, aesthetics, and quality of life of those fishing, boating, and birding, and living in the region. (0001-19-5 [Blake, Matt])

Comment: On this project, over 4,000 craftsmen will be needed for several years to construct this unit. The economy in southern New Jersey is such right now, 50 percent of the building trades are out of work right now. (0001-22-3 [Kehoe, Jim])

Comment: A potential new power plant would have many impacts. Some of them are 4,100 construction jobs, during the peak construction, including 1,500 electricians, iron workers, and pipe fitters. It would create an additional 4,000 jobs in New Jersey, Delaware and Pennsylvania, as a result of the purchase of goods and services during construction. And, finally, 600 permanent jobs that would be at the plant when it becomes operational. These impacts, as well as many others, will affect our community. (0001-3-2 [Joyce, Tom])

Comment: WRA is interested in PSEG's proposed project, because the proposed nuclear plant would be a major water user located in the Delaware River basin, and it is an important part of the economy of New Jersey, and the region at large. (0001-8-2 [Molzahn, Robert])

Comment: My questions would include concern for extreme floods, which may be different now than when the original plants were put into existence, adequate entrance and egress systems, maintaining a good, continuous dialogue with the community. (0001-9-8 [Lacandro, Roger])

Comment: With unemployment in the county hovering around 12 percent, the economic possibilities of this expansion cannot be understated. (0002-2-2 [Bobbitt, Bruce])

Comment: Again, there are no surprises, including our plans to explore the construction of a new nuclear plant. The potential new plant would have many impacts, including some 4,100 construction jobs, during peak construction, including 1,500 electricians, iron workers, and pipe fitters. The creation of an additional 4,000 jobs in New Jersey, Delaware, and Pennsylvania, as a result of the purchases of goods and services during the construction. And, finally, 600 permanent jobs when the new plant would become operational. These impacts, as well as many others, will positively affect our community. (0002-3-2 [Braun, Bob])

Comment: Will the new jobs have a tremendous impact in Salem County? Absolutely. And that is a good thing. (0002-8-4 [Campbell, Keith])

Comment: Construction of an additional nuclear facility and access road on this location will impact the health, aesthetics and quality of life of those fishing, boating, birding and living in the region. (0003-6 [Batty, Sandy] [Dillingham, Tim] [Galetto, Jane])

Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Comment: And in these difficult economic times, the development of a new nuclear facility would provide much-needed job growth. The construction phase creates 1,400 to 1,800 jobs, and when completed the facility would employ over 500 people in local high-paying jobs. Every year nuclear plants generate approximately \$430 million in the sales of goods and services in their local communities, not to mention their significant tax contributions that benefit local infrastructure, public services and schools. (0004-4 [Salmon, Edward])

Comment: Construction of a new plant would also be very good for the local economy. Building a new plant would result in the creation of between 1400 to 1800 jobs and as high as 2500 or more at peak employment during the construction. After that, a new plant would mean 400 to 700 permanent jobs that pay about 36 percent more than average salaries in the area. Salem County is a rural community at heart, with very few industries and very few jobs to offer. If you are fortunate, as our members and all others in the company are, PSEG is the place to work. Building a new plant opens the doors of opportunity for stable employment, a better career and a better way of life for hundreds of people. (0005-7 [Hassler, Charles])

Comment: Construction of a new plant would result in much needed jobs in the construction trade, which in New Jersey is experiencing unemployment rates of 30% and higher. Plant construction would result in more than 2,000 jobs for steelworkers, pipefitters, electrical contractors and concrete workers. The new plant would also employ between 400 and 700 people with good paying salaries. (0006-3 [Patouhas, Maria])

Comment: My questions would include: concern for extreme floods and adequate entrance and egress systems, maintaining a good, continuous dialog with the community and an insistence that only the best science be incorporated in planning and construction. (0008-9 [Lacandro, Roger])

Comment: This new application represents the "principles" in which the County's Economic Development Strategy is based on. That being:

- "Green" technologies and construction method
- Sustainability
- Focused location with preservation of open space
- Regional cooperation
- Creation of a wide range of employment opportunities
- Reduction in property taxes
- Transparency and civic involvement (0009-3 [Kugler, John])

Comment: I would like to mention some keys facts that would be related to this application if approved:

- Generate roughly \$430 million in sales of goods and services in the local community.
- Create an additional \$40 million in total labor income for the new unit.
- This new plant would create approximately 450 new permanent jobs that are so desperately needed.

While under construction roughly 1,400 to 1,800 construction jobs would be created. This new plant would generate roughly \$20 million in state and local tax revenue. Education and local infrastructure benefit from tax revenues. This facility would generate roughly \$75 million in federal tax payment annually. A substantial number of non nuclear jobs estimated to be 400 to 500 would be created as a result of a new unit being built.

Other benefits to building this new unit that would have a positive impact regionally are the boost to the local economy with the purchase of commodities such as:

400,000 cubic feet of concrete
66,000 tons of steel
44 miles of piping
300 miles of electrical wiring
130,000 electrical components (0009-4 [Kugler, John])

Comment: 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. (0011-2 [Molzahn, Robert])

Comment: In summary, I believe that the construction of a properly permitted additional nuclear power generating facility at Artificial Island will be a benefit to not only the residents and landowners of Elsinboro Township, but also provide a much needed economic boon to Salem County and Southern New Jersey as a whole. (0016-5 [Eik, John])

Response: *The NRC staff will evaluate the regional socioeconomic impacts of the proposed action in Chapters 4 and 5 of the EIS, including impacts related to the local economy, taxes, transportation, aesthetics and recreation, housing, education, community infrastructure and social services.*

Comment: PSEG has also supported the Chamber of Commerce's efforts to enhance business relationships with the other businesses and organizations in Salem County, and the surrounding areas. In fact, one of our initiatives, recently, has been to buy locally, and we have expanded that message not only to citizens with consumer goods, but to large businesses. And PSEG was already way of the curve with that. They support many local businesses, and vendors. And I think Tom mentioned the figure of 80 million dollars, annually, into the local economy.

One of the most important things is to bring dollars into the county, and not have dollars drift out. And I just did a little bit of rough math, with our 60,000 or so citizens of Salem County. That 80 million dollars would probably be about 5,000 dollars per family, in Salem County, and I hate to think how bad it would be without that. Salem County and Cumberland County are the two poorest counties in the state. So the economic impact, in a positive way, of PSEG is tremendously important, and any growth would only help our situation down here. (0001-18-3 [Duffy, Brian])

Comment: Just to reiterate some other comments that have been said today. PSEG Nuclear plays a very important role in our regional economy. The company is the largest employer in Salem County, employing 1,500 people, and pays more than two million in local property taxes. Each year PSEG Nuclear spends millions of dollars with local companies in southern New Jersey, to help them generate electricity. This investment results in direct jobs for hundreds of people, and even more indirect jobs in our region. (0001-23-2 [Patouhas, Maria])

Comment: We recognize the impact of the current operations that we have on the community. We have 1,500 local employees, forty percent of them from Salem County. We purchase goods and services totaling more than 81 million dollars in southern New Jersey. And we pay more than two million dollars in property taxes a year. (0001-3-1 [Joyce, Tom])

Comment: The jobs to this region, PSEG is the largest employer to Salem. They invest 84, 85 million dollars into the economy of southern New Jersey, and they provide excellent jobs. (0002-1-4 [Sweeney, Steve])

Comment: We recognize the impact that our current operations have on the community, including 1,500 local employees, some 40 percent of which hail from Salem County. The purchase of goods and services, totaling more than 80 million dollars, per year, from south Jersey businesses, and more than two million dollars a year in local property taxes. (0002-3-1 [Braun, Bob])

Comment: And if you look at it in that basic principle, then they should stop killing the fish at Salem I and II. It is destroying the fishing industry, so you are losing jobs. (0002-6-14 [Schneider, Richard])

Comment: PSEG Nuclear plays a very important role in our regional economy. The company is the largest employer in Salem County, employing 1,500 people and pays more than \$2 million in local property taxes. Each year, PSEG Nuclear spends millions of dollars with local companies in Southern New Jersey to help them generate electricity. This investment results in direct jobs for hundreds of people, and even more indirect jobs, in our region. In fact, a Nuclear Energy Institute analysis shows that every dollar spent by the average nuclear plant results in the creation of \$1.07 in the local community. The electricity generated by the current plant provides millions of businesses and homes with reliable, safe, clean and efficient power. (0006-2 [Patouhas, Maria])

Comment: PSEG has provided good paying jobs for numerous Elsinboro Residents. The operation of the facilities has not placed any financial burden on the local school system, fire company or rescue squad. Rather, to the contrary, PSEG has been a strong supporter of these entities with their time and financial support. (0016-4 [Elk, John])

Response: *The existing socioeconomic environment in the region, including the PSEG ESP site's potential impact on the local economy, will be described in Section 2.5 of the EIS.*

Comment: So you would be adding to the amount of fish that are killed at that facility. So you must consider the existing damage that the present facility, Salem I and II

causes, and adding even more damage. And Salem I and II draws in three billion gallons of water a day, every day. And it kills billions of fish. And the EPA has estimates on how much. And I have a paper I would like to submit as data. And they kill 350 million age one equivalent fish. In other words, fish that would have grown up to be a million, I mean, one year old. That is how they generally use their fish kill data; they call it age one equivalent fish. But, actually, the facility kills billions of fish, billions of smaller fish, which is the food chain for the bigger fish, and the whole ecosystem. So my concern here is that you want to build a new facility, but you are not stopping the existing damage caused by the present facility that is there, units I and II, which draw in three billion gallons of water, and have an open loop cooling system. So before you consider building a new facility you should stop the damage caused by the existing facility, first. I think that is a priority. But it seems like just build another one. But you still have an existing fish kill facility, there. And it kills all species, all ages. And it is destroying the fishing industry along the Delaware Bay and the Delaware River. We used to have a great fishing industry, and we don't now. (0002-6-12 [Schneider, Richard])

Response: *Cumulative socioeconomic impacts of the proposed action will be discussed in Section 7.4 of the EIS.*

2.13 Comments Concerning Historic and Cultural Resources

Comment: It is also likely that the land swap and resulting new access road would obstruct the view shed of the historic 1722 Able Mary Nicholson brick house, which is a national historic landmark. (0001-19-6 [Blake, Matt])

Comment: It is likely that the land swap and resulting new access road would obstruct the viewshed of the historic 1722 Abel and Mary Nicholson pattern brick house, which is a National Historic Landmark. (0003-7 [Batty, Sandy] [Dillingham, Tim] [Galetto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Comment: The Society's research has provided a strong foundation for the study of the New Sweden Colony in 1638-1655 and is devoted to preserving the historical sites of New Sweden. The New Sweden Colony was an effort by Sweden to claim a stake in colonial America and, from 1643-1652, Fort Elfsborg was a strategic fortification utilized to guard the South River (Delaware River).

It is now the intention of the Swedish Colonial Society to discover the location of Fort Elfsborg built in Southern New Jersey along the Delaware River. The bulk of the documentation for the location of Fort Elfsborg is scattered in The Swedish Settlements on the Delaware 1638-1664, Amandus Johnson, 1911. Additional clues are found in New York Historical Manuscripts-Dutch, Gehring, and in original documents housed in the Swedish National archives. Dr. Johnson cited a number of sources of Swedish, Dutch and English on the specific location. For example: Winsor, IV. 462: Doc. XII 28, 29 "This island was most judiciously selected for the erection of a fort, being protected by the river on the west, on the north by Fishing Creek (Mill Creek), turning east and south, on the south by an immense expanse of wild marsh." This is probably the most definitive location and is bolstered by a number of other clues. For example: Governor Printz's

account books mention the loss of stockpiled lumber when the Indians set fire to the "island." The key here is what is considered an island. The entire area is broken into numerous "islands" by narrow channels. Other clues are citations of the distance of Fort Elfsborg south of Fort Christina and in several reports of where ships were anchored in relation to the fort. The location of the site in Johnson is the hub of the general area we wish to search.

The US Army Corp of Engineers, 1986, Heite and Heite Report concludes the river has washed the fort site away. This is based mostly on a 19th century farmer's request for monetary compensation for land he claimed had been washed away by the river. The area the farmer cited is about a mile from the historical fort location given in Johnson. The Heite and Heite Report cites almost no original 17th century sources regarding the fort location, but relies solely on secondary sources which are based on the farmer's land washed-away money request. These sources were all created after the farmer's claim. The Heite and Heite Report was obviously not familiar with New Sweden research.

Although it does not appear that the Mill Creek area, where it is believed the Fort Elfsborg was located, will be affected, we respectfully request that due diligence be exercised when the NRC does the environmental review of the PSEG ESP application. It is of the most importance that the NRC ensures a more comprehensive Phase 1 survey of the area to assure that the Fort Elfsborg historical site is not impacted, compromised or obliterated. (0015-1 [Birdwell, Margaret (Sally) Sooy])

Comment: The New Jersey Historic Preservation Office (HPO) is currently in consultation with the Nuclear Regulatory Commission (NRC), and other interested parties, regarding the proposed Hope Creek/Salem Nuclear Power Station expansion project pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR part 800. Through ongoing consultation, this undertaking has identified underwater and terrestrial archaeological sites, as well as, historic properties within the physical and visual area of potential effects. Additional investigations are on-going. If historic properties will be adversely affected by the undertaking; NRC, through consultation, shall work to avoid, minimize, and/or mitigate those effects pursuant to the Section 106 process. (0019-27 [Brubaker, Scott])

Comment: The Historic Preservation Office (HPO) provided comment on July 9, 2009 that the Salem and Hope Creek Generating Stations license renewal would not adversely effect historic properties. The post-license renewal activities (stations expansion, access roads and possible power line upgrades) were subject to a separate review for impacts on historic properties. In your letter dated November 5, 2010, you have identified that the license renewal and post-license renewal activities are in fact one undertaking. In consequence, the following consultation comments for the above-referenced undertaking are provided. (0021-3 [Brubaker, Scott])

Comment: 800.4 Identifying Historic Properties

The initial cultural resource surveys for expanding the Salem and Hope Creek Generating Stations as part of post-license renewal activities have identified the following archaeological and historic properties within the above-referenced

undertaking's area of potential effects (APE). Previous HPO comment on post-license renewal activities is attached and summarized below:

Archaeology

Proposed Barge Facility and Water Intake

Underwater survey identified four probably shipwreck locations (Clusters 1, 2, 3, & 4). If avoidance is not possible, Phase II archaeological survey will be necessary for each cluster to assess their eligibility for listing on the National Register of Historic Places. To date, the HPO has not received any site avoidance documentation, avoidance plan, or Phase II archaeological survey.

Money Island Road Access Alternative Alignment

Phase I archaeological survey for the proposed Money Island Road Access Alternative Alignment identified the following archaeological sites:

Sites 28-Sa-179, 28-Sa-180, 28-Sa-182, 28-Sa-183, and 28-Sa-186

If avoidance is not possible, Phase II archaeological survey will be necessary for each site to assess their eligibility for listing on the National Register of Historic Places. To date, the HPO has not received any site avoidance documentation, avoidance plan, or Phase II archaeological survey.

Alloway Creek Neck Road Access Alternative Alignment

Phase I archaeological survey for the proposed Alloway Creek Neck Road Access Alternative Alignment did not identify any archaeological deposits eligible for listing on the National Register of Historic Places. In consequence, no additional archaeological survey is required unless the alignment, as defined in the 2009 submission, changes in the future. (0021-4 [Brubaker, Scott])

Comment: Historic Architecture

On January 11, 2010, the HPO received:

Brown, J. Emmett. July 31, 2009. *Draft Historic Properties Visual Impact Assessment PSEG Early Site Permit Application, Salem, New Jersey*. Prepared for PSEG Power, LLC. Prepared by MACTEC Engineering and Consulting, Inc., Knoxville, TN.

The submitted report does not meet the NJ SHPO's guidelines for Architectural Survey. The methodology section of this draft report notes that only known properties listed on the National Register of Historic Places were considered for assessment of visual impacts within the APE. Section 106 of the National Historic Preservation Act requires that the applicant identify all listed and eligible properties within the APE, and then provide an assessment of effects and proposed mitigation, if applicable, pursuant to 36 CFR Part 800.5. To complete the Section 106 process, the applicant must complete the identification of historic properties, and then provide an assessment of the project's effect on the identified properties. (0021-5 [Brubaker, Scott])

Comment: In consequence, the HPO cannot concur at this time with your November 5, 2010 letter stating that the above-referenced undertaking will not adversely affect historic properties. Pursuant to 36 CFR Part 800.4, Phase II archaeological survey and intensive level architectural survey will provide for evaluation of the National Register eligibility of the sites/structures and assessment of project impacts. For properties on or eligible for National Register inclusion, recommendations must be provided for avoidance of impacts. If impacts cannot be avoided, analyses must be provided exploring alternatives to minimize and/or mitigate impacts. Means to avoid, minimize and/or mitigate impacts to National Register eligible properties will need to be developed and undertaken prior to project implementation. (0021-6 [Brubaker, Scott])

Response: *As part of its environmental review of historic and cultural resources, the staff will meet with the necessary State Historic Preservation Offices (SHPOs) and will review other appropriate information sources. The results of the analysis will be presented in Chapter 4 of the EIS, and the staff will take any appropriate action called for as a result this review. The NRC will also fulfill its responsibilities under Section 106 of the National Historic Preservation Act with regard to historic properties for the project. The results of the Section 106 review will also be presented in the EIS.*

2.14 Comments Concerning Meteorology and Air Quality

Comment: ER Page 22 of 42, Meteorological Monitoring

Comment: Is there any concern with the existing cement pad for the main meteorological tower with regard to stress cracks and integrity? When was the last inspection of the tower pad performed? (0019-9 [Brubaker, Scott])

Response: *Issues related to the structural safety and integrity of the meteorology tower pad is outside of the scope of environmental review. This evaluation can be found in the Safety Evaluation Report.*

Comment: The Bureau of Air permit has reviewed the proposed Early Site Permit application for the proposed Nuclear Reactor Units at Salem and Hope Creek Generating Stations. The new plant is proposed to have supporting equipment such as cooling towers; auxiliary boilers, emergency diesel generators and/or combustion turbines that emit air pollutants. The application gives details of the expected size of each piece of equipment, the stack height and emissions from the equipment. These equipment will be subject to Federal and State Air Pollution Control Regulations and requires air pollution control permits. PSEG Nuclear will be required to submit a permit modification to incorporate these equipment and their associated emissions in the existing Title V Air Operating Permit for Hope Creek and Salem Generating Stations. (0019-10 [Brubaker, Scott])

Response: *Comment noted. Meteorology and air quality impacts resulting from the construction and operation of the proposed facility will be discussed Chapters 4 and 5 of the EIS.*

Comment: The Bureau of Technical Services (BTS) has reviewed the air quality modeling sections of the proposed Early Site Permit application for the proposed

Nuclear Reactor Units at Salem and Hope Creek Generating Stations. These sections briefly describe the results of a preliminary analysis of the air quality impacts of the proposed changes.

The new equipment being proposed that emit air pollutants (cooling towers; auxiliary boilers, emergency diesel generators and/or combustion turbines) will require a detailed modeling analysis of their impact on sulfur dioxide, nitrogen oxides, PM-10, and PM-2.5 air quality. This modeling must be part of their air permit application that incorporates the new equipment into the existing Title V Air Operating Permit for Hope Creek and Salem Generating Stations. Prior to submittal of the modeling analysis, a modeling protocol which describes the techniques and modeling assumption which will be used should be submitted to BTS prior to submittal of the modeling analysis. Note that the modeling analysis must address the new 1-hour sulfur dioxide National Ambient Air Quality Standard. (0019-11 [Brubaker, Scott])

Response: *Comment noted. Meteorology and air quality impacts resulting from the construction and operation of the proposed facility will be discussed Chapters 4 and 5 of the EIS.*

Comment: 1) Environmental Report, Chapter 1, Page 1.3-9, Table 1.3-2 Authorizations Required for Preconstruction, Construction, and Operation Activities

The Early Site Permit (ESP) states that the requirements of the Federal Clean Air Act (42 USC 7401) for this project include a Title V Operating Permit and a Prevention of Significant Deterioration Preconstruction Permit.

Comment

Section 40 CFR 93.150 (a) (Prohibition) of the Federal General Conformity regulation states, "No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan."

Also, Section 40 CFR 93.150 (b) of the Federal General Conformity regulation states, "A Federal agency must make a determination that a Federal action conforms to the applicable implementation plan in accordance with the requirements of this subpart before the action is taken." The Federal General Conformity regulation requires that a General Conformity Applicability Analysis for ozone (Volatile Organic Compounds (VOCs) and Oxides of Nitrogen (NOx)) and if necessary a Conformity Determination is needed for this project.

In addition, Sections 93.153(b) and (1) (Applicability) in the Federal General Conformity regulation states, ". . . a conformity determination is required for each criteria pollutant or precursor where the total direct or indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b) (1) of this section." Under the 1-hour Ozone National Ambient Air Quality Standards (NAAQS), the Philadelphia-Wilmington-Atlantic City (PA-DE-MD-NJ) nonattainment area was classified as a "severe" nonattainment area. Under this classification, the de minimis level for Oxides of Nitrogen (NOx) is 25 tons per year (tpy) and the de minimis level for Volatile Organic Compounds (VOCs) is 25 tpy. The State of New Jersey continues to be in nonattainment for the 8-

hour ozone NAAQS. In order to prevent backsliding and to meet the goal of the Clean Air Act (42 U.S.C. 7502(e)) to achieve attainment of the Ozone NAAQS, it is necessary to use the de minimis emissions levels established for General Conformity projects under the 1-hour Ozone NAAQS at (40 CFR 93.153(b)(1)). When preparing the Applicability Analysis, please use the de minimis levels for the 1-hour Ozone NAAQS.

In addition, Section 93.158 (d) of the Federal General Conformity regulation states, "Any analyses required under this section must be completed, and any mitigation requirements necessary for a finding of conformity must be identified before the determination of conformity is made." A mitigation plan will be required for criteria pollutant emissions and precursors above the 1-hour de minimis levels. (0019-12 [Brubaker, Scott])

Comment: 6) Environmental Report, Chapter 4, Page 4.4-2,

4.4.1.1.1.2.1 Proposed Causeway

The ESP states, "Construction of the proposed causeway and any improvements of connecting roadways may expose residents of this and other nearby buildings to temporary and intermittent increases in noise, dust, and air pollution emissions associated with these activities."

Comment

Comment 1 (above) also applies to this portion of the project. (0019-16 [Brubaker, Scott])

Comment: 8) Environmental Report, Chapter 4, Page 4.4-6

4.4.1.3 Dust and Other Emissions

The ESP states, "Construction activities result in increased air emissions. Earthmoving and material handling activities may generate fugitive dust and fine particulate matter. Vehicles and engine-driven equipment (e.g. generators and compressors) generate combustion product emissions such as carbon monoxide, nitrogen oxides and, to a lesser extent, sulfur dioxides. Painting, coating and similar operations also generate emissions from the use of volatile organic compounds."

Comment

Comment 1 (above) also applies to this portion of the project. (0019-18 [Brubaker, Scott])

Comment: 11) Environmental Report, Chapter 4, Page 4.6-12, Table 4.6-1 Summary of Measures and Controls to Limit Adverse Impact During Construction

Table 4.6-1 (Socioeconomic Impacts -Physical Impacts) of the ESP indicates that, "the adverse impacts include exposure to fugitive dust, exhaust emissions, and vibrations. The specific measures and controls include best management practices for controlling fugitive dust and proper maintenance of construction equipment for controlling emissions."

Comment

Comment 1 (above) also applies to this portion of the project.

12) Environmental Report, Chapter 5, Page 5.5-3

5.5.1.3 Impacts of Discharges to Air

The ESP states, "The new plant will comply with all regulatory requirements of the Clean Air Act, including requirements of the NJDEP Division of Air Quality and Delaware Department of Natural Resources and Environmental Control, Division of Air and Waste Management, thereby minimizing any impacts on state and regional air quality."

Comment

Please see comment 1 for a description of one of the Federal regulations that is applicable to this project. (0019-19 [Brubaker, Scott])

Comment: 15) Environmental Report, Chapter 10, Page 10.1-11 Table 10.1-1 Construction-Related Unavoidable Adverse Environmental Impacts

Table 10.1-1 of the ESP indicates that "the atmospheric and meteorological impacts of the project include an increase in dust and emissions from construction equipment and construction workforce vehicles occurs. The mitigation measures in Table 10.1-1 include BMPs for controlling fugitive dust and proper maintenance of construction equipment and vehicles is used to control air emissions."

Comment

Comment 1 (above) also applies to this portion of the project. (0019-20 [Brubaker, Scott])

Response: *These comments refer to the NJDEQ's assertion that the proposed action must comply with the Federal General Conformity Act (40 CFR 93.150), which addresses air pollution emissions. The NRC will conduct a conformity determination under 40 CFR Part 93, Subpart B, outside of the NEPA process to determine whether additional mitigation is warranted.*

2.16 Comments Concerning Health - Radiological

Comment: ER Page 27 of 136-Hydrological Alterations

"Dredged material removed as part of this construction activity will be transported to and placed in an on-site or other approved upland disposal facility."

Does the licensee plan on expanding the REMP program to include air particulate/iodine monitoring, surface water runoff, or soil sampling in the area of this CDP (if onsite area is used for materials)? An air monitoring site should be placed downwind of the CDP based on annual meteorological direction (SE). Also, will there be expanded ground water monitoring in the vicinity of the CDF?

Once complete, sampling locations near the intake and discharge canals will be needed, especially for media such as aquatic biota and sediment. Since the structures are upstream in the Delaware, PSEG will need to rethink their exiting collection location north of the plant that is considered, 'control'. This site may need to be moved further upstream. (0019-3 [Brubaker, Scott])

Comment: ER Page 13 of 42, Radiological Environmental Monitoring Program, Table 6.2-1

Comment: The NJBNE is requesting that the licensee consider increasing the REMP sample frequency from quarter annual to monthly, based on the public interest of tritium contamination in groundwater in New Jersey. Samples of groundwater, including local drinking water wells, are collected in order to provide assurance to the public that these water resources are not impacted. (0019-8 [Brubaker, Scott])

Comment: ER Page 12 of 42, Section 6 -Environmental Measurements and Monitoring Programs

6.2.2.1 Radiological Monitoring Program

"The existing PSEG REMP serves as the new plant construction/preoperational radiological monitoring program. Additional on-site thermoluminescent dosimetry (TLD) monitoring locations will be added to the north of the HCGS to support the ODCM/REMP for the construction and preoperational period. A description of the new monitoring locations and other applicable parameters will be provided in the combined license (COL) application."

Comment: The NJBNE requests that the licensee establish a Groundwater Protection Program for the proposed site at the construction/pre-operational stage rather than waiting for the operation of the facility. During the construction phase, there will be knowledge as to where all applicable tanks and pipes are going to be located, along with buildings containing radioactive fluids and areas of further investigation for potential tritium in groundwater. (0019-6 [Brubaker, Scott])

Response: *Impacts to ground and surface water as result of construction and operation, including potential tritium releases, of the proposed facility will be discussed in Sections 4.3 and 5.3 of the EIS. In addition, the Radiological Environmental Monitoring Program (REMP) and additional mitigative actions, proposed by the applicant, during the construction and operation phase will be discussed in Chapter 4 and 5.*

2.20 Comments Concerning the Uranium Fuel Cycle

Comment: Is the current Independent Spent Fuel Storage Installation (ISFSI) capable of providing storage for all three nuclear generating stations (Salem 1 & 2 and Hope Creek) plus the proposed new plant? Will there be an addition to the existing pad or will a separate new pad be built? How will the cumulative effects of all this storage of spent fuel be assessed? In the Early Site Permit SEIS? (0021-1 [Brubaker, Scott])

Response: *The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 60 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor in a combination of storage in its spent fuel storage basin and at either onsite or offsite independent spent fuel storage installations. Section 5.9 of the EIS will discuss radiological impacts during operation of the proposed new facility including the storage of spent fuel. The NRC will discuss potential cumulative impacts in Chapter 7 of the EIS, based on the plant parameter envelope established for the site.*

Comment: We worried about safety issues, and even more, about the lack of a long-term safe repository for nuclear wastes. We weren't experts, our concerns were real. (0001-10-3 [Applegate, Jim])

Comment: In fact, if you have had an opportunity, I have been to Yucca Mountain four times. And I have watched that develop, and know the need that we have of the right place for a waste disposal plant. (0001-13-3 [Salmon, Edward])

Comment: The storage of spent fuel is widely thought to be a hazard. But a recent proposal from the Health Physics Society, which is the professional scientific society of radiation safety officers, states that dry cask storage of spent fuel for several hundred years, will reduce its radioactivity to the point where reprocessing would not be difficult.

And this very valuable fuel could then be reused. This interim storage would eliminate the necessity for storing large masses of radioactive material in a site like Yucca Mountain, where it must remain physically and chemically stable for hundreds of thousands of years. And the NRC has already approved the safety of dry casks. (0001-5-6 [Meadow, Norman])

Comment: And then another concern with nuclear is also the waste that is produced by the facility. The half life of nuclear materials, like the 100,000 years, which is basically how much it will degrade in its nuclear power. Well, the problem is you have to worry about this nuclear waste forever. And maintain it, and make sure it is safe. If you don't produce nuclear waste you don't have to worry about it. And we do have a problem with nuclear waste in this country. Salem is storing some there and, you know, it is a concern. (0002-6-5 [Schneider, Richard])

Comment: 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. (0010-3 [Applegate, Jim])

Response: *The NRC staff will assess the environmental impacts of the uranium fuel cycle, including the impacts of solid radioactive waste management in Chapter 6 of the*

EIS. The NRC staff will assess the environmental impacts of accidents in Chapter 5 of the EIS. The Commission has made a generic determination that, if necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 60 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor in a combination of storage in its spent fuel storage basin and at either onsite or offsite independent spent fuel storage installations. Further, the Commission believes there is reasonable assurance that sufficient mined geologic repository capacity will be available to dispose of the commercial high-level radioactive waste and spent fuel generated in any reactor when necessary (75 FR 81037).

2.25 Comments Concerning Cumulative Impacts

Comment: To many environmental groups renewable energy is a preferable alternative to nuclear reactors. To those concerned with the conservation of biological diversity, however, the cumulative ecological impacts of large scale, renewable projects, will be their most detrimental effect. We believe that concerns for the cumulative ecological impacts of the alternatives, wind, solar, and biomass, should be included in the final EIS, as a reason for rejecting them as an alternative to nuclear power. (0001-6-7 [Lewis, Kenneth])

Comment: In addition, I urge that the cumulative ecological impacts of alternative energy generating sources be included in the Environmental Impact Statement, in order to show that, by comparison, nuclear energy is far preferable, is a far preferable option. (0001-7-4 [Eastman, Ajax])

Response: *The cumulative impacts associated with alternative energy sources will be discussed in EIS Chapter 9.*

Comment: This meeting is about the environmental impact of a new facility. And my comments cover a variety of issues that I feel are important to bring up, and have on the record, also, pertaining to the new facility, and the existing complex, which must also be considered, as a whole, when you add one more to three existing, it is a bigger picture, and a bigger effect. (0002-6-1 [Schneider, Richard])

Response: *These comments allude to cumulative impacts, which are impacts that result from the combination of a proposed action with past, present, and reasonably foreseeable actions, regardless of who takes the actions. The cumulative impacts associated with issuing the proposed ESP for the existing Salem/Hope Creek site will be evaluated for each affected resource. The results of cumulative impact analyses will be presented in EIS Chapter 7.*

Comment: With the new facility a good thing is, if it is built, that it would have a closed loop cooling system, which would greatly reduce the amount of water needed to cool the facility. A closed loop cooling system reduces the water take, compared to an open loop system, by 90 to 95 percent. So however, an average nuclear facility draws in, an open loop system, like a billion gallons of water a day, over a billion. So even with the closed loop, you are still talking about 50 million to 100 million of

gallons a day. So you would be adding to the amount of fish that are killed at that facility. So you must consider the existing damage that the present facility, Salem I and II causes, and adding even more damage. And Salem I and II draws in three billion gallons of water a day, every day. And it kills billions of fish. And the EPA has estimates on how much. And I have a paper I would like to submit as data. And they kill 350 million age one equivalent fish. In other words, fish that would have grown up to be a million, I mean, one year old. That is how they generally use their fish kill data; they call it age one equivalent fish. But, actually, the facility kills billions of fish, billions of smaller fish, which is the food chain for the bigger fish, and the whole ecosystem. So my concern here is that you want to build a new facility, but you are not stopping the existing damage caused by the present facility that is there, units I and II, which draw in three billion gallons of water, and have an open loop cooling system. So before you consider building a new facility you should stop the damage caused by the existing facility, first. I think that is a priority. But it seems like just build another one. But you still have an existing fish kill facility, there. And it kills all species, all ages. And it is destroying the fishing industry along the Delaware Bay and the Delaware River. We used to have a great fishing industry, and we don't now. Not when one facility draws in three billion gallons of water a day. And Salem says we fixed up some wetlands and that will compensate. It is really hard to believe that fixing up a few acres of wetlands will compensate for billions of fish killed, every year, year after year. So I feel that you should fix the first two, units Salem I and II, and then consider moving on. (0002-6-11 [Schneider, Richard])

Comment: And I spoke with some Nuclear Regulatory Commission people tonight. And I have a major concern, that when the Nuclear Regulatory Commission does an evaluation of an existing permit, or a new permit, the issue of water intake, for the cooling system, is left up to the state, as a state permit. I spoke with a gentleman from the Nuclear Regulatory Commission, and he says it is above his ability to change the rulings, that the EPA has made about this issue. But I feel that it should be part of the Nuclear Regulatory Commission's when they evaluate the water intake, for two reasons. Because NRC is a nuclear, is a federal agency. A federal agency applies to any issue that affects more than one state. The fish kill caused by these facilities affects more than one state, it affects the fishermen in Delaware, in Maryland, in Pennsylvania, in New Jersey, and all up and down the coast, where the fish would have gone, and traveled, and be caught by other people. So therefore the NRC needs to be involved with a federal ruling on it, and not be involved with the water permit. So I'm asking the NRC to talk to the people above them to pursue that. (0002-6-17 [Schneider, Richard])

Comment: And then, also, the Federal Clean Water Act applies to the fish kill. In the 1970s the Federal Clean Water Act, said that you must use the best technology available to stop the fish kill. This facility, Salem I and II, is killing the fish. And they are not using the best available technology. So, therefore, the federal agency overseeing the nuclear plant, which is the NRC, needs to enforce that particular law. It is a federal law, the Clean Water Act. So, again, I ask the NRC to pursue having open or closed loop systems. (0002-6-19 [Schneider, Richard])

Response: *These comments allude to cumulative impacts on aquatic resources, which are impacts that result from the combination of a proposed action with past, present, and reasonably foreseeable actions, regardless of who takes the actions. The cumulative impacts associated with issuing the proposed ESP will be evaluated for each affected*

resource, including aquatic resources. The results of cumulative impact analyses will be presented in EIS Chapter 7.

Comment: There are two key sections in every EIS: The first is an analysis of the cumulative impacts of the proposed action, and the second is an analysis of alternatives to the proposed action. Thus, the dEIS states: Cumulative impacts result when the effects of an action are added to or interact with other past, present, and reasonably foreseeable future effects on the same resources. And further: These combined impacts ... include individually minor but collectively potentially significant actions taking place over a period of time. To many environmental groups renewable energy is a preferable alternative to reactors. To those concerned with the conservation of biological diversity, however, the cumulative ecological impacts of large-scale renewable projects will be their most detrimental effect. We believe that concern for cumulative ecological impacts of the Alternatives, wind, solar, and biomass should be included in the final EIS as a reason for rejecting them as an alternative. (0007-6 [Lewis, Kenneth])

Comment: In addition, I urge that the cumulative ecological impacts of alternative energy generating sources be included in the Environmental Impact Statement (EIS) in order to show that by comparison nuclear energy is a far preferable option. (0012-5 [Eastman, Ajax])

Response: *The cumulative impacts associated with alternative energy sources will be discussed in EIS Chapter 9.*

2.26 Comments Concerning the Need for Power

Comment: We need to keep pace with our state's energy needs. The U.S. Department of Energy predicts that the national electrical demand will increase 28 percent by 2035, and to maintain nuclear energy's current 20 percent contribution, which they do today, we must build about one new reactor per year, starting in 2016. (0001-13-13 [Salmon, Edward])

Response: *This comment affirms the need to build new capacity to keep pace with the nation's energy needs and suggests nuclear should continue to constitute a constant share of this capacity. NRC's assessment of Need for Power will be discussed in detail in Chapter 8 of the EIS.*

Comment: New Jersey Nuclear Power supplies the state of New Jersey with about 52 percent of its electric needs. It is important in meeting electric demand, of not only the state, but the region also. Producing this electricity with nuclear power is done without creating greenhouse gases, which is an important and critical component to this discussion, given the global warming situation. Equally important is that there is no impact on the local environment. Without these plants the reliability of electric delivery to meet demand, would be put at risk. As demand increases, we must consider the need for another nuclear power plant. (0001-17-9 [Hassler, Charles])

Response: *This comment describes a number of reasons that nuclear power should be considered as a source of new capacity in the New Jersey Region. The balance of benefits and costs will be considered in Chapter 10 in the EIS.*

Comment: At the May 4th, 2010 public meeting that NRC held on the project I commented on the importance of providing additional electrical generating capacity to meet the energy needs of New Jersey residents and businesses. These comments are, of course, still applicable, especially the need to provide base load generating capacity, supplemented by renewable energy projects, such as wind and solar, in New Jersey. (0001-8-3 [Molzahn, Robert])

Response: *This comment provides a general need for additional generating capacity in the New Jersey region and the desirability of a portfolio of capacity containing nuclear and renewable energy sources. Capacity requirements will be discussed in Chapter 8 of the EIS.*

Comment: This facility is critical to the State of New Jersey for its energy needs. And as we move forward, and we know it is going to take some time to build, I'm excited that we are finally starting it. I think it took them eight years too long to get started, but we started. (0002-1-2 [Sweeney, Steve])

Response: *This comment offers general support for the construction of the proposed facility and notes the lead time required for such a construction project. This comment will not be discussed specifically in the EIS, but the project's background, including length of the construction period, will be discussed in Chapter 1 of the EIS.*

Comment: And my final point is that I'm very familiar with the efforts to pursue renewable energy off the coast of New Jersey, including wind, wave, and tidal energy. These are in the nascent stages of development. But if you look at the projected production, energy production from these sources, it certainly will not meet the future demand for our state, which continues to grow, as we continue to develop. (0002-4-8 [DeLuca, Mike])

Response: *This comment suggests that a number of advanced renewable energy sources will be insufficient to meet power needs in the New Jersey region. Capacity requirements will be discussed in Chapter 8 of the EIS.*

Comment: And we feel that it is important to develop nuclear power generation, and feel that siting a plant, here in an area that is already dedicated to producing nuclear power, is a particularly efficient way to do it, because it takes advantage of the infrastructure that is already in place, for the plants that exist there now. (0002-5-4 [Duvall, Brian])

Response: *This comment provides general support for the construction of additional power generation units at the existing PSEG site, noting they will take advantage of existing infrastructure. Site attributes will be discussed in detail in Chapter 2 of the EIS.*

Comment: And one other thing, the power that is produced by this facility is sold wholesale; it is on the PGM grid, which includes power plants in 13 states, and 50 million people. They are wholesale producers of electricity. It just doesn't go to the people of

New Jersey. The people of New Jersey buy their power on the wholesale market, like everybody else in the PGM grid. So it is slightly misleading to say the power generated in New Jersey comes, so much percentage comes from the Salem Nuclear Plant. That power they produce goes to 13 different states. So if that unit IV is not built, the people in New Jersey will still get power from all the other facilities in the PGM grid. And that is an important aspect that a lot of people don't know about. (0002-6-21 [Schneider, Richard])

Response: *This comment notes that power from the proposed power plant will be sold to the PJM grid (regional transmission organization that coordinates the movement of wholesale electricity within the New Jersey region) and will not be specifically reserved for the State of New Jersey. The nature of the power grid and circumstances relevant to the New Jersey region will be discussed in Chapter 8 of the EIS.*

Comment: The key thing I think, when I take a look at the energy question that we have in the United States, has to do with coal generation, and the fact that fewer and fewer coal generated facilities are going to be used in our future. Whether Cap and Trade passes or not, coal generation is on the way out. And what is going to replace it? At Mannington Mills we have solar generation, and I'm very proud of what we have been able to do with that. But, quite frankly, that solar generation would not be economical unless the federal government had heavy tax subsidies, in order to make it happen. The same thing has to do with wind. And while I think the solar and wind generation title, etcetera, is wonderful, sustainable and good, we have to have large generation of fossil free, in order for us to be able to get environmental goal posts that we would like to hit as a society. And, obviously, I'm here tonight saying I think nuclear is a very, very good alternative. And I have a high degree of confidence in the fact that PSEG can deliver. (0002-8-2 [Campbell, Keith])

Response: *This comment describes issues associated with several alternative sources of power for the New Jersey region. These and related issues will be discussed in detail in Chapters 8, 9, and 10 of the EIS.*

Comment: We need to keep pace with our state's energy needs. The U.S. Department of Energy projects that national electricity demand will increase 28 percent by 2035, and to maintain nuclear energy's current 20 percent contribution, we must build about one new reactor per year starting in 2016. New wind and solar power will definitely play a part in our energy future, but the simple nature of their intermittency requires something more. The New Jersey Energy Coalition supports the development of a new nuclear facility here in Salem County as it will help mitigate rising energy demand with a clean power source that fuels job growth and strengthens our economy. (0004-6 [Salmon, Edward])

Comment: And, the power generated by the new plant will help meet the ever growing energy demand. (0006-4 [Patouhas, Maria])

Response: *These comments note the general need for additional generating capacity in the New Jersey region and the desirability of a portfolio of capacity containing nuclear and renewable energy sources. Need for power will be discussed in Chapter 8 of the EIS.*

Comment: Nuclear power supplies the State of New Jersey with about 52% of its electric needs. It is important in meeting the energy demand of not only the State and but the region as well. Producing this electricity with Nuclear power is done without creating greenhouse gases, which is an important and critical component to this discussion, given the global warming situation. Equally important is that there is no impact on the local environment. (0005-3 [Hassler, Charles])

Response: *This comment provides general support for nuclear power in the New Jersey region, noting a number of environmental advantages. This comment will not be addressed specifically in the EIS, but a discussion of the balance between benefits and costs of the proposed facility will be discussed in Chapter 10 of the EIS.*

Comment: Without these plants the reliability of the electric delivery to meet demand would be put at risk. As demand increases, we must consider the need for another nuclear power plant. (0005-5 [Hassler, Charles])

Comment: At the May 4, 2010 public meeting 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. (0011-4 [Molzahn, Robert])

Response: *These comments note the need to increase generating capacity to maintain electric reliability in the face of increasing demand for power. Need for Power will be addressed in detail in Chapter 8 of the EIS.*

Comment: Nuclear energy now supplies over 50% of our state's energy needs and it is recognized an efficient, clean, low carbon form of energy production; our needs for energy continues to grow. (0008-2 [Lacandro, Roger])

Response: *This comment notes the general attributes of nuclear power that makes it attractive as a power source. This comment will not be discussed specifically, but a balance of the benefits and costs associated with the proposed power plant will be contained in Chapter 10 of the EIS.*

2.28 Comments Concerning Alternatives - Energy

Comment: First, let's reduce our demand for energy. More efficient fuel construction in the transportation sector, better construction design, both in new construction and 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. (0001-10-1 [Applegate, Jim])

Comment: New Jersey Nuclear Power supplies the state of New Jersey with about 52 percent of its electric needs. It is important in meeting electric demand, of not only the state, but the region also. Producing this electricity with nuclear power is done without creating greenhouse gases, which is an important and critical component to this

discussion, given the global warming situation. Equally important is that there is no impact on the local environment. Without these plants the reliability of electric delivery to meet demand, would be put at risk. (0001-17-4 [Hassler, Charles])

Comment: 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 decade 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 can have serious impacts on mortality of migrating birds. 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 this hearing. We recognized the value of generating usable energy without increasing greenhouse gases. (0010-1 [Applegate, Jim])

Response: *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. While energy efficiency measures could reduce demand in the PSEG service area, in accordance with NUREG-1555 a merchant plant is not required to perform a demand-side management analysis or consider measures to increase energy efficiency as an alternative to the proposed action. Chapter 9 of the EIS will describe the potential environmental impacts of alternative energy sources, including fossil fuels and renewable sources of energy.*

Comment: Our second class of solutions was bringing more renewable energy sources online. 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 decade, tells 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 would have much less impact. Wind energy leaves a construction and service footprint at the expense of wildlife habitats, and operation can have serious impacts on mortality of migrating birds. Land growing biofuels have very limited wildlife habitat value. Barry Commoner was right, 50 years ago, there is no such thing as a free lunch. (0001-10-2 [Applegate, Jim])

Comment: Our third option was reexamination of nuclear power generation. A technology not considered a part of the package while we taught that course but, evidently, back on the table, as evidenced by this hearing. We recognized the value of

generating large amounts of usable energy without increasing greenhouse gases. (0001-10-4 [Applegate, Jim])

Comment: Salem County is now recognized as the alternative energy capital of the northeast. Not only are we fortunate enough to have three operating nuclear plants, we recently had ground breaking on significant solar projects that will develop 92 megawatts of energy. With the addition of the fourth unit, which has the majority of the infrastructure to support it, we believe that this county, and this country, is moving in the right direction by creating alternative energy projects, and removing our dependency on foreign oil. (0001-12-4 [Kugler, John])

Comment: New wind and solar power would definitely play a role in our energy future. But the simple nature of their intermittency requires something more. (0001-13-14 [Salmon, Edward])

Comment: Nuclear is clean, it produces zero carbon emissions, or critical air pollutants. In 2009, alone, New Jersey's nuclear power plants avoided the emission of 142,000 tons of sulfur dioxide, and 30 million, trillion metric tons of carbon dioxide emissions that contribute to green house gases, smog, and acid rain. Nuclear energy accounts for 73 percent of the nation's emission-free, electrical generation. And it needs to expand this role, in commitment with other renewable sources, to meet the rising energy demand in an environmentally responsive manner. (0001-13-6 [Salmon, Edward])

Comment: As previously stated, we believe that nuclear power, as a source for clean, reliable, carbon free electrical generation, is the best solution to the nation's current and future energy needs. And it poses the least potential threat to the natural environment, when compared with other generation sources, such as wind, solar, and biomass. (0001-6-2 [Lewis, Kenneth])

Comment: This proposed 2,200 megawatt nuclear facility, sited on 350 acres, operating at a slightly conservative capacity of 90 percent, will produce 1,980 megawatts. By comparison, to grow enough switch grass to fire boilers for electrical generation, equal to the output of this proposed facility, assuming a middle range per acre harvest of switch grass, would require 3,700 square miles. That area required in this particular region, makes the solution really not of any consideration, because it represents about 40 percent of the state area. (0001-6-4 [Lewis, Kenneth])

Comment: Another alternative, solar cell installations on open land, requires large areas, and poses a significant threat to the flora and fauna in the geographical regions in which they are proposed. For example, at Nellis Air Force Base in the Nevada desert, one megawatt devices installations on 9.3 acres of land, with solar tracking devices, which makes them highly efficient. In New Jersey, where the sun is less intense, a 275 square mile installation would be required to equal the electrical output of the proposed reactor. Solar cells installed on existing structure may not pose any, as yet, recognized threat to the environment. And we support that particular application. (0001-6-5 [Lewis, Kenneth])

Comment: To many environmental groups renewable energy is a preferable alternative to nuclear reactors. To those concerned with the conservation of biological diversity, however, the cumulative ecological impacts of large scale, renewable projects, will be their most detrimental effect. We believe that concerns for the cumulative ecological

impacts of the alternatives, wind, solar, and biomass, should be included in the final EIS, as a reason for rejecting them as an alternative to nuclear power. (0001-6-6 [Lewis, Kenneth])

Comment: These factors are major part of the reason that the Maryland Conservation Council is bucking the trend of most of the major environmental groups, in our enthusiastic support of nuclear energy, and our opposition to most of the renewable options, particularly wind. (0001-7-14 [Eastman, Ajax])

Comment: In addition, I urge that the cumulative ecological impacts of alternative energy generating sources be included in the Environmental Impact Statement, in order to show that, by comparison, nuclear energy is far preferable, is a far preferable option. (0001-7-3 [Eastman, Ajax])

Comment: The PSEG site application, part three, environmental reports, contains a good analysis of the renewable options compared to the nuclear option. The ESP concludes that wind turbines, solar thermal power, and photovoltaic technologies, due to the intermittency of wind and sun, are not competitive to the reliability of nuclear power. (0001-7-5 [Eastman, Ajax])

Comment: I'm particularly interested in addressing the biological impacts of renewables, primarily wind. This technology has had a huge impact on the biological world. In order to produce an equivalent amount of energy, wind requires an enormous footprint. As pointed out, in their Environmental Report, quote, to replace the energy equivalent of a 2,000 MWe of nuclear capacity, operating at 90 percent capacity factor, approximately 3,300 two MWes, wind turbines, operating at a capacity factor of 30 percent, would be required.

These turbines would be sited on 396,000 acres. That is 619 square miles, and disturbs 19,800, or 31 acres, or 31 square miles, to accommodate the physical footprint of the towers themselves. I like that the ESP's comparison of that amount of land, I like the comparison to 15 times the area of Norfolk, that is a lot of land. (0001-7-6 [Eastman, Ajax])

Comment: Whether the area is on land, or offshore, it is mind boggling to think of the potential harm, and humongous impacts of industrial wind. On land, particularly, the Appalachian Mountains of the East, the 396,000 acres, required, would destroy the mainly unfragmented, biologically rich forests, which are not only habitat for bats and nesting neo-tropical birds, but also habitat for terrestrial flora and fauna. The area is, also, a major migratory corridor for birds, bats, and raptors. Yet without full review of environmental impacts, or cost to taxpayers and customers, permits are being granted.

As for the impacts offshore, we really can't know the full extent of the harm turbines will have on the aquatic resources, benthic organisms, oceanic mammals, or pelagic birds. Where is the precautionary principle in the blind acceptance of, and push for, such a destructive form of energy? (0001-7-7 [Eastman, Ajax])

Comment: At the May 4th, 2010 public meeting that NRC held on the project I commented on the importance of providing additional electrical generating capacity to meet the energy needs of New Jersey residents and businesses. These comments are,

of course, still applicable, especially the need to provide base load generating capacity, supplemented by renewable energy projects, such as wind and solar, in New Jersey. (0001-8-4 [Molzahn, Robert])

Comment: I also mentioned that PSEG new nuclear unit will provide power for more than 3 million homes each day, as opposed to fossil fuel power plants, and there will be no green house gas emissions, such as CO2 or methane, as was mentioned by previous speakers. No SO2 or NOX emissions that could contribute to acid rain, or nitrification of our waterways. And also no mercury emissions that could detrimentally affect aquatic life in the Delaware River and Bay. (0001-8-5 [Molzahn, Robert])

Comment: Solar and wind is safe, and clean energy (0002-6-22 [Schneider, Richard])

Comment: We need to keep pace with our state's energy needs. The U.S. Department of Energy projects that national electricity demand will increase 28 percent by 2035, and to maintain nuclear energy's current 20 percent contribution, we must build about one new reactor per year starting in 2016. New wind and solar power will definitely play a part in our energy future, but the simple nature of their intermittency requires something more. The New Jersey Energy Coalition supports the development of a new nuclear facility here in Salem County as it will help mitigate rising energy demand with a clean power source that fuels job growth and strengthens our economy. (0004-5 [Salmon, Edward])

Comment: In evaluating environmental issues relative to this nuclear power facility and alternative energy sources that might be proposed to negate its necessity biomass is listed as a consideration. This proposed 2200 Megawatt (MW) nuclear facility sited on 350 acres operating at a slightly conservative capacity factor of 90% will produce 1980 MW. By comparison to grow enough switch grass to fire boilers for electrical generation equal to the output of the nuclear facility (assuming a middle of the range yield of 2.5 metric tons per acre per year would require planting 3700 square miles. The area required in this region makes this solution impractical because it represents about 40% of the area of the state. (0007-3 [Lewis, Kenneth])

Comment: Another alternative, solar cell installations on open land, requires large areas and pose a significant threat to the flora and fauna in the geographical regions in which they are proposed. For example, at Nellis Air Force Base in the Nevada desert 1 MW of NAMEPLATE capacity is installed on 9.3 acres of land and these are sophisticated devices that track the sun. In New Jersey where the sun is less intense a 275 square mile installation would be required to equal the electrical output of the proposed reactor. Solar cells installed on existing structure may not pose any as yet recognized threat to the environment and we support them. (0007-4 [Lewis, Kenneth])

Comment: There are two key sections in every EIS: The first is an analysis of the cumulative impacts of the proposed action, and the second is an analysis of alternatives to the proposed action. Thus, the dEIS states: Cumulative impacts result when the effects of an action are added to or interact with other past, present, and reasonably foreseeable future effects on the same resources. And further: These combined impacts ... include individually minor but collectively potentially significant actions taking place over a period of time. To many environmental groups renewable energy is a preferable alternative to reactors. To those concerned with the conservation of biological diversity,

however, the cumulative ecological impacts of large-scale renewable projects will be their most detrimental effect. We believe that concern for cumulative ecological impacts of the Alternatives, wind, solar, and biomass should be included in the final EIS as a reason for rejecting them as an alternative. (0007-5 [Lewis, Kenneth])

Comment: Salem County is now recognized as the alternative energy capital of the Northeast. Not only are we fortunate enough to have three operating nuclear power plants we recently had ground breakings on significant solar projects that will develop 92 megawatts of energy. With the addition of a fourth unit, which has the majority of the infrastructure to support it, we believe this country is moving in the correct direction by creating alternative energy projects and removing our dependency on foreign oil. (0009-5 [Kugler, John])

Comment: At the May 4, 2010 public meeting 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. (0011-3 [Molzahn, Robert])

Comment: I also mentioned that PSEG's new nuclear unit will provide power for more than three million homes each day and, as compared to fossil fuel power plants, there will be no greenhouse gas emissions such as CO₂ or methane. There will also be no SO₂ or NO_x emissions that would contribute to acid rain or nitrification of our waterways. There will also be no mercury emissions that could detrimentally affect aquatic life in the Delaware River and Bay. (0011-5 [Molzahn, Robert])

Comment: Whether that area is on land or offshore, it is mind boggling to think of potential harm and humongous impacts of industrial wind. On land, particularly in the Appalachian mountains of the east, the 396,000 acres required would destroy the mainly unfragmented, biologically rich forests which are not only habitat for bats and nesting neo-tropical birds, but also habitat for terrestrial flora and fauna. The area is also a major migratory corridor for birds, bats, and raptors. Yet without full review of the environmental impacts or the costs to taxpayers and customers, permits are being granted. As for impacts offshore, we really can't know the full extent of the harm turbines will have on aquatic resources, benthic organisms, oceanic mammals, or pelagic birds. Where is the precautionary principle in the blind acceptance of and push for such a destructive form of energy? (0012-10 [Eastman, Ajax])

Comment: In addition, I urge that the cumulative ecological impacts of alternative energy generating sources be included in the Environmental Impact Statement (EIS) in order to show that by comparison nuclear energy is a far preferable option. (0012-3 [Eastman, Ajax])

Comment: The PSEG Site ESP application, Part 3, environmental reports contains a good analysis of the renewable options compared to the nuclear option. The ESP concludes that the wind turbines, solar thermal power, and photovoltaic technologies, due to the intermittency of the wind and sun are not competitive to the reliability of nuclear power. (0012-6 [Eastman, Ajax])

Comment: I am particularly interested in addressing the biological impacts of renewables, primarily wind. This technology has a huge impact on the biological world. In order to produce an equivalent amount energy, wind requires an enormous footprint. As pointed out in their Environmental Report, ... to replace the energy equivalent a 2200 MWe of nuclear capacity operating at 90 percent capacity factor, approximately 3300 2 MWe wind turbines operating at a capacity factor of 30 percent would be required. These turbines would be sited on 396,000 acres (619 square miles) and disturb 19,800 acres (31 square miles) to accommodate the physical footprint of the towers themselves. (I like the ESP's comparison of that amount of land to 15 times the area of Newark!) (0012-7 [Eastman, Ajax])

Response: *Alternate energy sources, including fossil fuels and renewable sources of energy (such as wind, solar, and biomass), will be evaluated and discussed in Chapter 9 of the EIS in comparison to a nuclear plant. The potential environmental impacts of these alternate energy sources will also be addressed in Chapter 9.*

Comment: So we want to educate, and stress the need for a broad energy platform, that includes conservation, green job initiatives, energy efficiency, supply diversity, transmission upgrade, clean baseload generation, and healthy, smart, economically viable, renewable energy projects. (0001-13-1 [Salmon, Edward])

Comment: Alternative sources are important, and we support them. But they only can take us so far. Wind and solar are intermittent, and lack the sheer capacity of baseload plants. Conservation efforts, energy efficiency enhancements, and a diverse mix of energy sources will serve us best. However, we should promote an increase in the use of nuclear energy, as an environmentally clean and reliable solution. (0001-13-7 [Salmon, Edward])

Comment: And my final point is that I'm very familiar with the efforts to pursue renewable energy off the coast of New Jersey, including wind, wave, and tidal energy. These are in the nascent stages of development. But if you look at the projected production, energy production from these sources, it certainly will not meet the future demand for our state, which continues to grow, as we continue to develop. (0002-4-7 [DeLuca, Mike])

Comment: Most of the Academy's programs have a component in them that focuses on global climate change. And we feel that that is an extremely important thing for people to be exposed to, to learn about, and especially the kids that we deal with, in education programs. There is no question that conservation measures, in terms of electrical usage, is an important part of combating that trend, as well as developing increased access to renewable sources of energy. But there is nuclear technology, which has been around for a long time, and has successfully been applied to providing baseload for the state of New Jersey, and the country as a whole, it is a proven technology, and is one that is carbon free. (0002-5-3 [Duvall, Brian])

Comment: The goal is to make electricity. But I feel that PSEG is going to be spending tens of billions of dollars on this nuclear plant. I think they would be better invested to invest in solar and wind farms, which could be built in the matter of a year, one year; you could have a farm built. With this new plant it will take, probably, ten years to build. You could be generating electricity immediately. I think it is a better investment. (0002-6-2 [Schneider, Richard])

Comment: As a young engineer, in the nuclear industry, one of the most exciting aspects of my future career, is the possibility of new nuclear. And while wind, solar, and other carbon-free forms of energy are important, and definitely needed, to provide for the energy demand that we have now and in the future, new nuclear must be a part of that equation. (0002-7-1 [Nedd, Sheranee])

Comment: The key thing I think, when I take a look at the energy question that we have in the United States, has to do with coal generation, and the fact that fewer and fewer coal generated facilities are going to be used in our future. Whether Cap and Trade passes or not, coal generation is on the way out. And what is going to replace it? At Mannington Mills we have solar generation, and I'm very proud of what we have been able to do with that. But, quite frankly, that solar generation would not be economical unless the federal government had heavy tax subsidies, in order to make it happen. The same thing has to do with wind. And while I think the solar and wind generation title, etcetera, is wonderful, sustainable and good, we have to have large generation of fossil free, in order for us to be able to get environmental goal posts that we would like to hit as a society. And, obviously, I'm here tonight saying I think nuclear is a very, very good alternative. And I have a high degree of confidence in the fact that PSEG can deliver. (0002-8-3 [Campbell, Keith])

Comment: Nuclear generation is clean. It produces zero carbon emissions or criteria air pollutants. In 2009 alone, New Jersey's nuclear power plants avoided the emission of one hundred and forty-two thousand tons of sulfur dioxide and 30 million metric tons of carbon dioxide, emissions that commonly contribute to greenhouse gases, smog and acid rain. Nuclear energy accounts for 73 percent of the nation's emission-free electrical generation, and it needs to expand this role in compliment with other renewable sources to meet rising energy demand in an environmentally responsible matter. Alternative sources are important, but can only take us so far -wind and solar are intermittent and lack the sheer capacity of base load plants. (0004-1 [Salmon, Edward])

Comment: Conservation efforts, energy efficiency enhancements and a diverse mix of energy sources will serve us best. However, we should promote an increase in the use of nuclear energy as an environmentally clean and reliable solution. New Jersey needs to better acknowledge and take advantage of the proven technology capable of providing carbon-free base load electricity. The development of new nuclear generating facilities is essential if we are going to address climate change, meet demand increases in a meaningful way, and promote energy independence from the Middle East. Changes in federal air regulations, the age of existing facilities and an improving economy all signal the need for new clean base load power supplies. (0004-2 [Salmon, Edward])

Comment: While I am not an expert in energy generation, there is no question that the future welfare of human society depends on reducing energy use and developing zero carbon sources of energy. Many experts have indicated that nuclear power represents a viable alternative in the short term and must be part of any mix of conservation and new energy sources that are used to make the transition to a zero carbon future. (0014-15, 0001-4-10 , 0014-18 [Velinsky, David])

Response: *The NRC is not involved in establishing energy policy; rather, it regulates nuclear energy to protect public health and safety within existing policy. An assessment*

of a broad energy platform that includes such items as conservation and energy efficiency and/or alternate sources of energy is beyond the scope of this EIS. Nevertheless, Chapter 9 of the EIS will describe the potential environmental impacts of alternative energy sources, including fossil fuels and renewable sources of energy, in comparison to nuclear power.

Comment: Another factor to consider, in comparing nuclear power to wind, is the life expectancy of the turbines. Many of the nuclear reactors, in the United States, are over 40 years old, and are still producing energy at 90 percent capacity. Whereas the thousands of turbines, being proposed, or already built, have a life expectancy of only 25 years, at a 30 percent capacity factor. (0001-7-10 [Eastman, Ajax])

Comment: Another factor to consider in comparing nuclear power to wind is the life expectancy of the turbines. Many of the nuclear reactors in the United States are over 40 years old and are still producing energy at 90 percent capacity, whereas the thousands of turbines being proposed or already built have a life expectancy of only 25 years at a 30 percent capacity. (0012-12 [Eastman, Ajax])

Response: *A detailed assessment of the engineering details of alternate power production (such as those associated with wind turbines) is beyond the scope of this environmental review and will thus not be addressed in the EIS. Nevertheless, the potential environmental impacts of alternatives, such as wind energy, will be addressed in Chapter 9 of the EIS.*

Comment: Whether the area is on land, or offshore, it is mind boggling to think of the potential harm, and humongous impacts of industrial wind. On land, particularly, the Appalachian Mountains of the East, the 396,000 acres, required, would destroy the mainly unfragmented, biologically rich forests, which are not only habitat for bats and nesting neo-tropical birds, but also habitat for terrestrial flora and fauna. The area is, also, a major migratory corridor for birds, bats, and raptors. Yet without full review of environmental impacts, or cost to taxpayers and customers, permits are being granted.

As for the impacts offshore, we really can't know the full extent of the harm turbines will have on the aquatic resources, benthic organisms, oceanic mammals, or pelagic birds. Where is the precautionary principle in the blind acceptance of, and push for, such a destructive form of energy? (0001-7-8 [Eastman, Ajax])

Response: *Impacts of alternative energy sources such as industrial and wind will be discussed in Chapter 9.0*

Comment: As for impacts offshore, we really can't know the full extent of the harm turbines will have on aquatic resources, benthic organisms, oceanic mammals, or pelagic birds. (0012-11 [Eastman, Ajax])

Response: *Alternative energy sources and their potential impacts to aquatic resources will be discussed in Chapter 9.*

2.29 Comments Concerning Alternatives - System Design

Comment: The Army Corps of Engineers and PSEG must consider an alternative to the land swap, such as using the existing road to Artificial Island, instead of creating a second road if, and when, a nuclear facility is permitted. In our view the existing access road should be sufficient. Issues associated with new spoil disposal site are, as yet, unknown, as the sites under consideration are unknown. But there are likely to be issues, considering the Army Corps of Engineers for riverfront lands. (0001-19-7 [Blake, Matt])

Comment: The Army Corps and PSEG must consider an alternative to the land swap, such as using the existing access road to Artificial Island instead of creating a second road, if and when a new nuclear facility is permitted. This would avoid destruction of wetlands and obviate the need for a new dredge disposal site. In our view, the existing access road should be sufficient and no additional destruction of wetlands should be permitted at the site. Issues associated with a new spoil disposal site are as yet unknown as the sites under consideration are unknown. But there are likely to be issues, considering the Army Corps' preference for riverfront lands. (0003-6 [Batty, Sandy] [Dillingham, Tim] [Galletto, Jane Morton] [Goldsmith, Amy] [McNutt, Richard] [Nolan, Christine] [O'Gorman, Margaret] [Schulte, James] [van Rossum, Maya])

Comment: The EIS should require clearer evaluation of PSEG's use of the Army Corps confined disposal facility, the agreement to do so, and any cumulative impacts resulting from use of the site. According to the ER 4.1-9, there will be construction laydown and related activities located in the Corps CDF site. It is unclear what long-term or permanent impacts may result, despite the site use for temporary activity. The NRC should consider these potential impacts and the full range of alternatives in its EIS. Moreover, the EIS should consider the chain reaction of environmental impacts if the CDF is used for another purpose. The NRC should also examine the mechanism by which the Army Corps is providing the use of this land and any impacts this may have on Army Corps permit reviews or regulatory processes for the Project. (0018-8 [Brown, Elizabeth])

Response: *In regard to the "land swap" mentioned in the comments, Chapters 4 and 5 of the EIS will address the proposed use of the Corps' existing Containment Disposal Facility (CDF) at the north end of Artificial Island, as well as the proposed exchange of property between PSEG and the Corps to provide a functional replacement for the existing CDF. The potential environmental impacts of the proposed new access road to the PSEG site will be addressed in Chapter 4 of the EIS.*

Comment: In reviewing the PSEG Early Site Permit application, and Environmental Report filed on May 25th, 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 under Section 316B of the Clean Water Act. The cooling tower blow-down discharge should have little impact on the Delaware River, at this location, or significantly elevate river water temperatures. (0001-8-6 [Molzahn, Robert])

Comment: A new plant will provide an excellent opportunity to incorporate new technology, hopefully to produce cleaner, safer energy, and especially if a cooling tower is incorporated into the new plans. I'm familiar with the impingement and entrainment, as I said. The much reduced need for water in a cooling tower process, you know, will reduce much of that impact, considerably. I know of no scientific study that proves that

the present cooling processes, at Salem and Hope Creek has generated any impact on the estuary. It can be debated, it can be argued. But I have not seen a scientific study that really proves that fact. After reviewing the EPS request, I find no reason to deny the requested permit. (0001-9-4 [Lacandro, Roger])

Comment: A new plant will provide an excellent opportunity to incorporate new technology, hopefully, to produce cleaner, safer energy especially if a cooling tower is incorporated to significantly reduce bay water usage, impingement and entrainment of aquatic biota and the impact of large quantities of elevated temperature water reentering the estuary. (0008-5 [Lacandro, Roger])

Comment: 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. (0011-8 [Molzahn, Robert])

Comment: In addition to the steps being taken to protect the wetlands impacted by construction, the aquatic impacts of the proposed facility will be limited by the use of a closed cycle cooling system. Compared to a once-through system, these cooling towers will divert much less water for cooling. Projected maximum diversion for the new facility is less than 4% of the current amount used by the Salem Generating Station and is a very small fraction the total volume of the Delaware River flow. As a result, impingement of fish populations will be a small fraction--less than 3% of the current level of the Salem station.

Because of the closed cooling system, we would also expect the thermal plume of the new plant to be localized and relatively small, with no significant impact on the local aquatic biota. The conclusion is based on past studies of the impact of thermal plumes from the existing PSEG generating plants, the expected operation of the proposed cooling structures, and our understanding of the ecology of aquatic species in the vicinity of the plant. (0014-17 [Velinsky, David])

Response: *No specific nuclear reactor or reactor design has yet been proposed for the PSEG site; rather, the ESP application is merely seeking approval from the NRC to bank the PSEG site for possible future use. Subsequent approvals would be needed from the NRC prior to the construction and operation of any nuclear reactor unit(s) at the PSEG site. Nevertheless, Chapter 3 of the EIS will describe the plant parameter envelope on which the assessment of potential environmental impacts will be based. The hypothetical design of any water intake systems and/or cooling towers will be developed by PSEG and offered to the NRC for review as part of the assessment in the EIS. The potential environmental impacts of such facilities will be addressed in Chapter 4 and 5 of the EIS.*

Comment: Finally, NRC must evaluate the impacts and all viable alternatives for cooling. DRN notes that EPA's Phase I regulations for new sources require closed-cycle cooling, which the new plant will have. 68 Fed. Reg. 36749-36755 (June 19, 2003). DRN has long advocated for closed-cycle cooling at the existing Salem facility. However, that does not mean that closed-cycle cooling is without impacts, or that one size fits all when

selecting the specific cooling technology. According to the ER "Compared with a once-through cooling system, a closed cycle cooling system substantially reduces the volume of water diverted for cooling but increases consumptive water use as a result of evaporation loss in the cooling tower." (0018-14 [Brown, Elizabeth])

Comment: The ER notes that PSEG is evaluating three different closed-loop designs for the cooling water system of the new plant: mechanical draft, natural draft, and fan-assisted natural draft. However, only the mechanical and natural draft designs were evaluated in the ER. The EIS must evaluate all alternatives, including any not evaluated in the ER, to ensure that all environmental impacts are adequately assessed. (0018-18 [Brown, Elizabeth])

Comment: Therefore, DRN urges NRC to review certain issues in more detail, including: clearer evaluation of PSEG's use of the Army Corps confined disposal facility, and cumulative impacts resulting from use of that site; water impacts including dredging and construction impacts; filling of wetlands; floodplain impacts; habitat impacts and impacts to species, especially Atlantic sturgeon; and impacts and evaluation of alternatives for cooling systems. (0018-5 [Brown, Elizabeth])

Response: *The impacts of viable alternatives for the cooling system will be addressed in Chapter 9 of the EIS.*

Comment: Clearly, the EIS will need to address the impact of dredging and related shoreline disturbance and take all viable alternatives into account. (0018-10 [Brown, Elizabeth])

Response: *Potential impacts of construction activities such as dredging and shoreline disturbances will be evaluated in Section 4.3.2 of the EIS. In addition, alternative technologies will be discussed in Chapter 9.*

Comment: And if you want to create jobs in this state, here, the way to do it is build solar farms, build wind farms. Build two new cooling towers at Salem I and II. They will create hundreds of construction jobs. And, also, you will create fishing jobs, which add up to thousands and thousands of jobs. That should be the approach, also, that should be considered in the overall discussion of this issue. (0002-6-15 [Schneider, Richard])

Response: *The NRC is not involved in establishing employment programs or policy nor in promoting employment opportunities within any state; rather, it regulates nuclear energy to protect public health and safety within existing policy. The alternatives described in the comment are beyond the scope of the review being conducted by the NRC for this Early Site Permit application; hence, they will not be addressed in the EIS.*

2.31 Comments Concerning Benefit-Cost Balance

Comment: With rising energy costs a concern for every American, nuclear power plants are the lowest cost producer of baseload electricity, especially in a region that is densely populated, and whose industry drives demand, nuclear generation's low cost, and reliability, fosters a competitive energy market, and keeps electric costs down for the ratepayer. (0001-13-11 [Salmon, Edward])

Comment: Other benefits to building this new unit that would have a positive impact regionally are the boost to the local economy with the purchase of commodities such as:

400,000 cubic feet of concrete
66,000 tons of steel
44 miles of piping
300 miles of electrical wiring
130,000 electrical components (0009-8 [Kugler, John])

Comment: And, lastly, we are all ratepayers. And what does a ratepayer want? The ratepayer wants to pay a lower energy cost. And with the added value of a fourth nuclear power plant we will all get that. So with that we support this plan one hundred percent, and I thank you very much. (0001-22-6 [Kehoe, Jim])

Comment: Nuclear energy is also affordable and reliable. With rising energy costs a concern for every American, nuclear power plants are the lowest-cost producer of base load electricity. Especially in a region that is densely populated and whose industry drives demand, nuclear generation's low cost and reliability fosters a competitive energy market and keeps electric costs down for the ratepayer. (0004-3 [Salmon, Edward])

Response: *The comments note the general attributes of nuclear power that makes it attractive as a power source. This comment will not be discussed specifically, but a balance of the benefits and costs associated with the proposed power plant will be contained in Chapter 10 of the EIS.*

2.32 General Comments in Support of the Licensing Action

Comment: We support PSEG's application for an Early Site Permit, and possible plans to build a new power plant. (0001-1-2 [Davis, Robert])

Comment: So I can tell you that I'm excited for the opportunity to see a new nuclear plant built, and definitely support the application for the Early Site Permit. (0001-11-1 [Richardson, T.J.])

Comment: And I'm here representing my board today, along with the 125 employees in supporting PSEG's efforts to build and operate a fourth nuclear unit here in Salem County. (0001-12-1 [Kugler, John])

Comment: We know and expect that there will be many challenges for PSEG as this application process moves forward. We also want to know, and we also want them to know, that we will be there to support their efforts, and assist them in any way possible, in making this project a reality. (0001-12-6 [Kugler, John])

Comment: The New Jersey Energy Coalition supports, strongly, the development of a new nuclear facility here in Salem County, as it will mitigate rising energy demand, with a clean power source that fuels job growth, and strengthens our economy.

Comment: We hope that PSEG will have your support to move forward, as they already have our support, as a valued partner in our community. On behalf of the Freeholder Board I would, again, suggest and ask that we all support PSEG Nuclear, in their endeavors to expand the Salem and Hope Creek stations. (0001-15-3 [Gaye, Earl])

Comment: Anyway, I'm Charles Hassler, and I came here to speak today in support of the Early Site Permit for PSEG. (0001-17-1 [Hassler, Charles])

Comment: Our support is based on our understanding of how the NRC proceeds with the Earl Site Permit effort. It is an informed, rational support that comes only with our belief that the safety of our members, and the general public at large, will be assured with the construction and operation of a new plant at the site. PSEG has a proven record of providing safe, reliable energy at its nuclear units. (0001-17-2 [Hassler, Charles])

Comment: The officers, staff, and members of the IBEW Local 94, support PSEG in their Early Site Permit application, and their plans to possibly build a new plant right here in Salem County. (0001-17-7 [Hassler, Charles])

Comment: I'm Brian Duffy, I'm currently the Chairman of the Salem County Chamber of Commerce, and I would like to say a few words in support of PSEG's Early Site Permit application. (0001-18-1 [Duffy, Brian])

Comment: All these things show us that PSEG has been, truly, a good neighbor to Salem County, a good corporate citizen. And any expansion of their activities, we would expect, to be more of the same. And it is a very good thing for the county, and we look forward to the expansion. (0001-18-2 [Duffy, Brian])

Comment: The Salem County Chamber of Commerce supports PSEG nuclear in its current operations, as well as its plans to file an Early Site Permit in consideration of an additional nuclear power plant here in Salem County. (0001-18-7 [Duffy, Brian])

Comment: I just wanted to say that the township committee is happy with the transparency shown to us by PSEG, and we are supportive of their exploration into the new nuclear. (0001-2-2 [Pompper, Ellen])

Comment: But as an educator in Salem County, I certainly would second the comment that PSEG has been a wonderful neighbor, and I can only see more good things coming out of their development here. (0001-20-5 [Thomas, Loren])

Comment: We are in full support of this Early Site Permit Application. (0001-21-2 [Bailey, David])

Comment: We are here to support the Early Site Permit for PSEG. PSEG is our best client. They provide a safe atmosphere for our membership, when they come and work, and work on the outages, or the construction projects from when Salem 1 was built, Salem 2 was built, and Hope Creek was built. There isn't a safer environment for our construction workers to work on. (0001-22-1 [Kehoe, Jim])

Comment: It is an ecologically sound project, as you have heard by people who are doctors, and who work in the industries who evaluate that, as you have heard today. (0001-22-7 [Kehoe, Jim])

Comment: We are here today to express our strong support for PSEG's application for an Early Site Permit. (0001-23-1 [Patouhas, Maria])

Comment: So, in summary, the MCC has concluded that no aspect of commercial nuclear power production represents a significant hazard to public health, and we urge that the DEIS approve construction of this reactor. (0001-5-9 [Meadow, Norman])

Comment: I'm also here to speak for the Maryland Conservation Council, in support of PSEG's proposal to build another nuclear reactor here near Salem, New Jersey. (0001-6-1 [Lewis, Kenneth])

Comment: In conclusion, we believe that the proposed nuclear power facility is the best option for electrical generation, for the region, with the least risk for environmental degradation. (0001-6-8 [Lewis, Kenneth])

Comment: We have reviewed the materials outlining PSEG's previous environmental enhancements, and believe where mitigation and/or remediation is required for any local environmental degradation, they have the ability, and the proven experience, to do it in a way that is acceptable to the environmental overseers. (0001-6-9 [Lewis, Kenneth])

Comment: I'm also a reformed nuclear energy opponent, who has studied all options for our energy future, and has now concluded that nuclear energy is the most reliable, carbon-free, and least ecologically damaging option available. That is why I'm here, today, to support PSEG's Early Site Permit. (0001-7-4 [Eastman, Ajax])

Comment: I'm also a reformed nuclear energy opponent, who has studied all options for our energy future, and has now concluded that nuclear energy is the most reliable, carbon-free, and least ecologically damaging option available. That is why I'm here, today, to support PSEG's Early Site Permit. (0001-7-2 [Eastman, Ajax])

Response: *These comments provide general information in support of the application. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

Comment: I am pleased to offer these comments to support the approval of the ESP requested by PSEG to proceed with plans to construct a new nuclear power plant, adjacent to the two in-service plants, Salem Creek, and Hope Creek. (0001-9-1 [Lacandro, Roger])

Comment: A new plant will provide an excellent opportunity to incorporate new technology, hopefully to produce cleaner, safer energy, and especially if a cooling tower is incorporated into the new plans. I'm familiar with the impingement and entrainment, as I said. The much reduced need for water in a cooling tower process, you know, will reduce much of that impact, considerably. I know of no scientific study that proves that the present cooling processes, at Salem and Hope Creek has generated any impact on the estuary. It can be debated, it can be argued. But I have not seen a scientific study

that really proves that fact. After reviewing the EPS request, I find no reason to deny the requested permit. (0001-9-6 [Lacandro, Roger])

Comment: I am just thrilled to be here tonight, that we are finally starting this journey, to bring a new nuclear facility to south Jersey. This facility is long overdue. And I have harassed, I have been a senator for eight years, and I have harassed PSEG for eight years, and publicly have commented on building a new facility in Salem. It is critical to the state. (0002-1-1 [Sweeney, Steve])

Comment: This facility is critical to the State of New Jersey for its energy needs. And as we move forward, and we know it is going to take some time to build, I'm excited that we are finally starting it. I think it took them eight years too long to get started, but we started. (0002-1-3 [Sweeney, Steve])

Comment: So I'm here, as the Senate President, as the Senator that represents this district, on behalf of my colleagues and the Assembly, wholeheartedly supporting, excited to be here to talk about this now. And, hopefully, not too long from now we will break ground, and we will ensure that New Jersey's future energy needs are met. (0002-1-6 [Sweeney, Steve])

Comment: I hope that PSEG will have your support to move forward, as you already have our support as a valued partner in our community. I support PSEG Nuclear, and their endeavor to expand our Salem and Hope Creek stations. (0002-2-3 [Bobbitt, Bruce])

Comment: And it is rare for me to come out and speak on behalf of a permit application; it is something that I just don't do very often. But tonight it is very different, because the applicant is PSEG, a company that I have a lot of familiarity with, and I'm certainly familiar with their corporate environmental record, and their commitment to protecting coastal resources in New Jersey. (0002-4-1 [DeLuca, Mike])

Comment: So my final point is that the plant expansion is certainly needed. It is situated at a suitable site, and I have every confidence that the PSEG folks will provide the appropriate mitigation strategies, and plans, to minimize environmental impacts. (0002-4-9 [DeLuca, Mike])

Comment: And we feel that it is important to develop nuclear power generation, and feel that siting a plant, here in an area that is already dedicated to producing nuclear power, is a particularly efficient way to do it, because it takes advantage of the infrastructure that is already in place, for the plants that exist there now. (0002-5-6 [Duvall, Brian])

Comment: As a young engineer, in the nuclear industry, one of the most exciting aspects of my future career, is the possibility of new nuclear. And while wind, solar, and other carbon-free forms of energy are important, and definitely needed, to provide for the energy demand that we have now and in the future, new nuclear must be a part of that equation. (0002-7-2 [Nedd, Sheranee])

Comment: We need to keep pace with our state's energy needs. The U.S. Department of Energy projects that national electricity demand will increase 28 percent by 2035, and

to maintain nuclear energy's current 20 percent contribution, we must build about one new reactor per year starting in 2016. New wind and solar power will definitely play a part in our energy future, but the simple nature of their intermittency requires something more. The New Jersey Energy Coalition supports the development of a new nuclear facility here in Salem County as it will help mitigate rising energy demand with a clean power source that fuels job growth and strengthens our economy. (0004-7 [Salmon, Edward])

Comment: I come here today to speak in support of PSEG's Early Site Permit. (0005-1 [Hassler, Charles])

Comment: Our support is based on our understanding of how the NRC proceeds with this Early Site Permit effort. It is an informed, rational support and comes only with our belief that the safety of our members and the public at large will be assured with the construction and operation of a new plant at the site. PSEG has a proven record of providing safe, reliable energy at its nuclear units. (0005-2 [Hassler, Charles])

Comment: The officers, staff and the members of IBEW Local 94 support PSEG and their early site permit application and their plans to possibly build a new nuclear plant right here in Salem County. (0005-8 [Hassler, Charles])

Comment: We are here today to express our strong support for PSEG's application for an Early Site Permit. (0006-1 [Patouhas, Maria])

Comment: In closing, I'd like to reiterate the Chamber of Commerce Southern New Jersey's strong support for PSEG Nuclear's plans to file an early site permit for a new nuclear plant. (0006-5 [Patouhas, Maria])

Comment: My name is Dr. Kenneth Lewis and I too represent the Maryland Conservation Council in support of the PSEG proposal to build a nuclear power facility on the site near Salem, N.J. pending the environmental assessment. (0007-1 [Lewis, Kenneth])

Comment: In conclusion we believe that the proposed nuclear power facility is the best option for electrical generation for the region with the least risk for environmental degradation. We have reviewed materials outlining PSEG's previous environmental enhancements and believe that where mitigation and/or remediation is required for any local environmental degradation they have the ability to do so in a way acceptable to environmental overseers. (0007-8 [Lewis, Kenneth])

Response: *These comments provide general information in support of the application. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

Comment: I am pleased to offer my comments to support the approval of the ESP requested by PSE&G to proceed with plans to construct a new, nuclear energy power plant adjacent to the two in-service reactors at Salem Creek. (0008-1 [Lacandro, Roger])

Comment: After reviewing the EPS request-I find no reason to deny the requested permit, the real planning will come not with the Early Site Permit but, with the actual details of the plant design. (0008-7 [Lacandro, Roger])

Comment: I am here today representing my Board and our 125 employees in supporting PSEG's efforts to build and operate a fourth nuclear unit here in Salem County. (0009-1 [Kugler, John])

Comment: This new application represents the "principles" in which the County's Economic Development Strategy is based on. That being: Green technologies and construction method. Sustainability Focused location with preservation of open space. Regional cooperation. Creation of a wide range of employment opportunities. Reduction in property taxes. Transparency and civic involvement. (0009-2 [Kugler, John])

Comment: We know and expect there will be many challenges for PSEG as this application process moves forward. We also want you to know that we will be there to support PSEG's efforts and to assist them in any way possible in making this project a reality. (0009-7 [Kugler, John])

Comment: I also am a reformed nuclear energy opponent who has studied all options for our energy future and I have now concluded that nuclear energy is the most reliable, carbon free and least ecologically damaging option available. That is why I am here today to support PSEG's Early Site Permit (ESP). (0012-2 [Eastman, Ajax])

Comment: 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. (0013-1 [Burger, Joanna])

Comment: In my capacity as Mayor of Elsinboro Township, I am writing this letter in firm support of PSEG's proposal to construct an additional new nuclear reactor in Salem County. (0016-1 [Elk, John])

Comment: In summary, I believe that the construction of a properly permitted additional nuclear power generating facility at Artificial Island will be a benefit to not only the residents and landowners of Elsinboro Township, but also provide a much needed economic boon to Salem County and Southern New Jersey as a whole. (0016-6 [Elk, John])

Comment: I also mentioned that PSEG new nuclear unit will provide power for more than 3 million homes each day, as opposed to fossil fuel power plants, and there will be

no green house gas emissions, such as CO₂ or methane, as was mentioned by previous speakers. No SO₂ or NO_x emissions that could contribute to acid rain, or nitrification of our waterways. And also no mercury emissions that could detrimentally affect aquatic life in the Delaware River and Bay. (0001-8-16 [Molzahn, Robert])

Comment: I also mentioned that PSEG's new nuclear unit will provide power for more than three million homes each day and, as compared to fossil fuel power plants, there will be no greenhouse gas emissions such as CO₂ or methane. There will also be no SO₂ or NO_x emissions that would contribute to acid rain or nitrification of our waterways. There will also be no mercury emissions that could detrimentally affect aquatic life in the Delaware River and Bay. (0011-7 [Molzahn, Robert])

Comment: I'm in full support, with the backing of our Board of Directors, of this Early Site Permit application. (0001-21-1 [Bailey, David])

Response: *These comments provide general information in support of the application. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

Comment: I also mentioned that PSEG's new nuclear unit will provide power for more than three million homes each day and, as compared to fossil fuel power plants, there will be no greenhouse gas emissions such as CO₂ or methane. There will also be no SO₂ or NO_x emissions that would contribute to acid rain or nitrification of our waterways. There will also be no mercury emissions that could detrimentally affect aquatic life in the Delaware River and Bay. (0011-6 [Molzahn, Robert])

Comment: I also mentioned that PSEG new nuclear unit will provide power for more than 3 million homes each day, as opposed to fossil fuel power plants, and there will be no green house gas emissions, such as CO₂ or methane, as was mentioned by previous speakers. No SO₂ or NO_x emissions that could contribute to acid rain, or nitrification of our waterways. And also no mercury emissions that could detrimentally affect aquatic life in the Delaware River and Bay. (0001-8-7 [Molzahn, Robert])

Response: *This comment provides general information in support of the application. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

2.34 General Comments in Support of Nuclear Power

Comment: New Jersey needs to better acknowledge and take advantage of this proven technology, capable of providing carbon-free baseload electricity. The development of new nuclear generating facilities is essential if we are going to address climate change, meet demand increases in a meaningful way, and promote energy independence from the Middle East. (0001-13-9 [Salmon, Edward])

Comment: So I'm going to speak about the health and safety aspects of nuclear power technology. And I believe that concerns about health underlie almost all objections to nuclear power. Arguments about cost, construction delays, loan guarantees and such, I believe are mostly surrogates to reinforced policies that really are driven by fear of nuclear power.

We believe, that is the MCC, that the NRC is an unbiased overseer of the nuclear industry, and is not a pawn in the hands of that industry. The NRC's evaluation of the radiological doses that are stated in the Environmental report will be a stringent review. And these doses are totally consistent with those from past radiological events. The MCC has concluded that there is no scientifically credible evidence that health has been harmed by a water moderator reactor. And this includes the reactor at Three Mile Island. We are going to submit written comments that will support this, and the other points that we are going to make today. (0001-5-2 [Meadow, Norman])

Comment: You will hear that reactors are a threat to wildlife, but humans are among the species most sensitive to radioactivity, and their health has not been harmed. (0001-5-4 [Meadow, Norman])

Comment: So, in summary, the MCC has concluded that no aspect of commercial nuclear power production represents a significant hazard to public health, and we urge that the DEIS approve construction of this reactor. (0001-5-8 [Meadow, Norman])

Comment: My comments, today, are focused on our state's environmental and economic well being. The Coalition's mission is to support clean, affordable, reliable sources of energy, and no form of baseload generation fits that description, better, than nuclear energy. (0001-13-2 [Salmon, Edward])

Comment: We have 104 nuclear facilities in America, and 66 locations, I believe, at 31 states. We need to get moving to double that size in the next ten years. (0001-13-4 [Salmon, Edward])

Comment: Alternative sources are important, and we support them. But they only can take us so far. Wind and solar are intermittent, and lack the sheer capacity of baseload plants. Conservation efforts, energy efficiency enhancements, and a diverse mix of energy sources will serve us best. However, we should promote an increase in the use of nuclear energy, as an environmentally clean and reliable solution. (0001-13-8 [Salmon, Edward])

Comment: And there are a lot of options out there that we can all look at. But if we really want to get independence from the Middle East, if we really want to fight global warming, and do a resolution to that issue, if we really want to provide the best green energy possible, the solution is nuclear. (0001-13-16 [Salmon, Edward])

Comment: Changes in federal air regulations, the age of existing facilities, and improving economy, all signal the need for a new clean baseload power supply. Nuclear energy is, also, affordable and reliable. (0001-13-10 [Salmon, Edward])

Comment: As the host town of three nuclear power reactors, we are very supportive of new nuclear. We have not had any objections by any residents that have come to any meetings, nor have I received any phone calls, from anyone else that would not like new nuclear. (0001-2-1 [Pompper, Ellen])

Comment: A couple of other people mentioned, earlier, that they had been anti-nuclear energy. I'm one of them, I'm an aging hippie, you know, I grew up in the '60s, and you had to be against nuclear energy. And most of what I thought about power plants grew out of Mr. Burns in the Simpsons. I'm one of those people who has been converted, myself, and that is because I have allowed myself to be educated. And having been at the plant, and having listened, and having heard not just their sales pitch, but the kind of scientific evidence we hear today, I have become an absolute believer and supporter of nuclear energy as a sustainable form of energy, moving forward for our country. (0001-20-3 [Thomas, Loren])

Response: *These comments provide general information in support of nuclear power. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

Comment: A couple of other people mentioned, earlier, that they had been anti-nuclear energy. I'm one of them, I'm an aging hippie, you know, I grew up in the '60s, and you had to be against nuclear energy. And most of what I thought about power plants grew out of Mr. Burns in the Simpsons. I'm one of those people who has been converted, myself, and that is because I have allowed myself to be educated. And having been at the plant, and having listened, and having heard not just their sales pitch, but the kind of scientific evidence we hear today, I have become an absolute believer and supporter of nuclear energy as a sustainable form of energy, moving forward for our country. (0001-20-4 [Thomas, Loren])

Comment: And, lastly, we are all ratepayers. And what does a ratepayer want? The ratepayer wants to pay a lower energy cost. And with the added value of a fourth nuclear power plant we will all get that. So with that we support this plan one hundred percent, and I thank you very much. (0001-22-8 [Kehoe, Jim])

Comment: The MCC is one of the oldest conservation groups in Maryland, and has worked for 41 years to protect Maryland's natural heritage. In November of 2007 our Board voted to support Unistar's request for a third reactor in Maryland, on the Chesapeake Bay. And we may be the only conservation group, in our state, to adopt such a policy. Our reason is that we believe that nuclear power is the most reliable way to produce electricity without carbon dioxide emissions. That it is a very low risk, and that it minimizes damage to habitat, and threats to biological diversity, which are a major concern for a conservation organization. (0001-5-1 [Meadow, Norman])

Comment: As previously stated, we believe that nuclear power, as a source for clean, reliable, carbon free electrical generation, is the best solution to the nation's current and future energy needs. And it poses the least potential threat to the natural environment, when compared with other generation sources, such as wind, solar, and biomass. (0001-6-3 [Lewis, Kenneth])

Comment: These factors are major part of the reason that the Maryland Conservation Council is bucking the trend of most of the major environmental groups, in our enthusiastic support of nuclear energy, and our opposition to most of the renewable options, particularly wind. (0001-7-15 [Eastman, Ajax])

Comment: I'm also a reformed nuclear energy opponent, who has studied all options for our energy future, and has now concluded that nuclear energy is the most reliable, carbon-free, and least ecologically damaging option available. That is why I'm here, today, to support PSEG's Early Site Permit. (0001-7-1 [Eastman, Ajax])

Comment: Nuclear energy, of course, supplies over 50 percent of the energy in the state of New Jersey. That is a big change from the time I was 10, 12 years old, where everything pretty much came from coal, and from somewhere else. So we are pleased to see a quick change to new, efficient, clean, low carbon form of energy production, for the needs, as the needs continue to grow in the State of New Jersey. (0001-9-2 [Lacandro, Roger])

Comment: Most of the Academy's programs have a component in them that focuses on global climate change. And we feel that that is an extremely important thing for people to be exposed to, to learn about, and especially the kids that we deal with, in education programs. There is no question that conservation measures, in terms of electrical usage, is an important part of combating that trend, as well as developing increased access to renewable sources of energy. But there is nuclear technology, which has been around for a long time, and has successfully been applied to providing baseload for the state of New Jersey, and the country as a whole, it is a proven technology, and is one that is carbon free. (0002-5-5 [Duvall, Brian])

Comment: My comments today are focused on our state's environmental and economic well being. The Coalition's mission is to support clean, affordable, reliable sources of energy, and no form of base load generation fits that description better than nuclear energy. Based on data compiled annually by the Nuclear Energy Institute, New Jersey's four nuclear reactors produced 55 percent of our in-state electrical supply in 2009. The NJ Energy Coalition Strongly feels that the development of new nuclear plants can help our state address climate change issues and fuel economic stimulus. (0004-2 [Salmon, Edward])

Comment: Without these plants the reliability of the electric delivery to meet demand would be put at risk. As demand increases, we must consider the need for another nuclear power plant. (0005-10 [Hassler, Charles])

Comment: As previously stated we believe that nuclear power as a source for clean, reliable, carbon free electrical generation is the best solution to the nation's current and future energy needs and poses the least potential threat to the natural environment when compared with other generation sources such as wind, solar and biomass. (0007-2 [Lewis, Kenneth])

Comment: I also am a reformed nuclear energy opponent who has studied all options for our energy future and I have now concluded that nuclear energy is the most reliable,

carbon free and least ecologically damaging option available. That is why I am here today to support PSEG's Early Site Permit (ESP). (0012-1 [Eastman, Ajax])

Comment: These factors are a major part of the reason that the Maryland Conservation Council is bucking the trend of most of the major environmental groups in our enthusiastic support of nuclear energy and our opposition to most of the renewable options, particularly wind. (0012-15 [Eastman, Ajax])

Comment: Nuclear is clean, it produces zero carbon emissions, or critical air pollutants. In 2009, alone, New Jersey's nuclear power plants avoided the emission of 142,000 tons of sulfur dioxide, and 30 million, trillion metric tons of carbon dioxide emissions that contribute to green house gases, smog, and acid rain. Nuclear energy accounts for 73 percent of the nation's emission-free, electrical generation. And it needs to expand this role, in commitment with other renewable sources, to meet the rising energy demand in an environmentally responsive manner. (0001-13-18 [Salmon, Edward])

Comment: Nuclear generation is clean. It produces zero carbon emissions or criteria air pollutants. In 2009 alone, New Jersey's nuclear power plants avoided the emission of one hundred and forty-two thousand tons of sulfur dioxide and 30 million metric tons of carbon dioxide, emissions that commonly contribute to greenhouse gases, smog and acid rain. Nuclear energy accounts for 73 percent of the nation's emission-free electrical generation, and it needs to expand this role in compliment with other renewable sources to meet rising energy demand in an environmentally responsible matter. Alternative sources are important, but can only take us so far -wind and solar are intermittent and lack the sheer capacity of base load plants. (0004-9 [Salmon, Edward])

Comment: Finally, there is an opinion that the transportation of high level radioactive material would be a hazard, and that is also wrong. The NRC and the National Academy of Sciences, have stated that current policies for rail transportation, practically eliminate the hazard of a rail accident, or a fire in a railroad tunnel. And they have also said that the transportation casks are very robust, and will survive any credible rail accident without leakage. (0001-5-7 [Meadow, Norman])

Comment: This is a reliable way to provide power. When you are someone who is looking to come to invest in the state of New Jersey, you are looking for certainty of energy, you are looking for reliability. We need to construct more plants such as the fourth nuclear power plant in Salem, to just be able to enhance and retain the people who have commerce in southern New Jersey. (0001-22-4 [Kehoe, Jim])

Response: *These comments provide general information in support of nuclear power. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

2.35 General Comments in Support of the Existing Plant

Comment: Not only is it important to recognize this new application as extremely important to the people of Salem County, but we need to continue to support the

ongoing efforts of PSEG as they operate their three existing units. We firmly believe, and know, that PSEG operates their existing units, at the highest levels, with safety and quality being the main ingredient of employee focus. Their record speaks for itself. We know that when the fourth unit goes on line, the same criteria will be the basis for that operation. (0001-12-5 [Kugler, John])

Comment: We understand the hesitation of those within, and surrounding our county, toward possible nuclear expansion. Their concerns regarding safety, and plant performance, are valid. However, PSEG Nuclear has consistently, and without hesitation, demonstrated its commitment to safety and excellence, through proper planning, and transparency of their plant. (0001-15-1 [Gaye, Earl])

Comment: We are coming here, before you, this afternoon to let you know that PSEG Nuclear is a valuable asset to our county. Not only are they a great community partner, but they are the county's largest employer. A majority of their employees are local residents who live in our community. In tough economic times, PSEG Nuclear provides an example of integrity and commitment to positive growth that we all need to see.

PSEG takes a very proactive role in developing positive relationships with members of the Salem County Community. Whether it is providing funding and support to local community groups, or attending every community event, they are always demonstrating their commitment to Salem County's proud heritage, and very bright future. (0001-15-4 [Gaye, Earl])

Comment: I am also a small business man, and PSEG is one of my valued customers. We build equipment for oil refineries, chemical plants, and so forth. And I can say, having visited the plant several times, that the culture of safety, quality, and security, is unparalleled in anything that I have seen. And certainly with an expansion, with a new nuclear reactor, we can be assured that the same culture would prevail. (0001-18-4 [Duffy, Brian])

Comment: For those who question PSEG's nuclear operations, I can say that having visited the plant several times, the culture of quality, safety, and security, is apparent throughout the operation. PSEG has proven itself to be a great neighbor and a partner in the Salem County community. (0001-18-6 [Duffy, Brian])

Comment: There are a couple of things that I would like to address, that relate to the general area of the social economic impact of the nuclear power plant, and why we support additional generating spot. Tom used the word earlier, and someone else repeated it, good neighbor. I would certainly say that PSEG has been a good neighbor, and a friend to many of us. And in both my roles in education, and in workforce investment development, PSEG has been a very strong supporter. (0001-20-1 [Thomas, Loren])

Comment: We are here to support the Early Site Permit for PSEG. PSEG is our best client. They provide a safe atmosphere for our membership, when they come and work, and work on the outages, or the construction projects from when Salem 1 was built, Salem 2 was built, and Hope Creek was built. There isn't a safer environment for our construction workers to work on. (0001-22-2 [Kehoe, Jim])

Comment: And they provide clean, safe energy. PSEG has had an excellent record down here. I want to thank them for being here, starting this process. We are going to hold their feet to the fire, so they build them. (0002-1-5 [Sweeney, Steve])

Comment: We understand the hesitation of those within the county and the surrounding areas, toward PSEG Nuclear plans to expand their facility. Their concerns regarding safety, and plant performance, are valid. However, PSEG Nuclear has consistently, and without hesitation, demonstrated its commitment to safety and excellence through proper planning, and transparency. Further more, they have not only been a partner, but a leader in this county, in the area of conservation of our environment. (0002-2-1 [Bobbitt, Bruce])

Comment: And they have been an excellent addition to the community. I have a high degree of confidence in the way that the nuclear facilities are managed; their safety record I think is very, very good. (0002-8-1 [Campbell, Keith])

Comment: Are there going to be some changes coming out of it? Certainly. But I just simply go with the track record of what PSEG have done. And I can tell you one thing; I have a high degree of confidence in them. (0002-8-6 [Campbell, Keith])

Comment: Not only is it important to recognize this new application is extremely important to the people of Salem County but we need to continue to support the ongoing efforts of PSEG as they operate their three existing units. We firmly believe and know that PSEG operates their existing units at the highest levels with safety and quality being the main ingredient of employee focus. Their record speaks for itself. We know that when the fourth unit goes on line the same criteria will be the basis of the operation. (0009-6 [Kugler, John])

Comment: 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. (0013-7 [Burger, Joanna])

Comment: For over 20 years the Academy has acted in an advisory capacity to monitor and evaluate the impact of various PSEG projects on the Delaware Estuary. In that time, we have had the opportunity to observe PSEG make substantive steps to reduce their environmental impact and to operate within the constraints of the local ecosystem. They are a very responsible partner in the study and use of the Delaware Estuary. (0014-1 [Velinsky, David])

Comment: Let me conclude by saying that I have had the opportunity to observe PSEG's operations for a number of years, and I'm impressed by their willingness to

respond to environmental constraints in their planning. They have embraced ecological science as a planning tool for engineering and have been proactive in seeking the guidance of experts to reduce their environmental impacts. The EEP represents a long term commitment to the region and its natural resources, and I would expect that commitment to continue with the proposed new construction. (0014-16 [Velinsky, David])

Comment: PSEG has always promptly responded to any Elsinboro Township questions or concerns. Over the past twenty three years of my public service to Elsinboro Township, the Artificial Island Facility has made itself most accessible to Elsinboro Township. I cannot recall a single complaint being brought to my attention regarding PSEG's operation of the nuclear facilities at Artificial Island or at the Training Center located on our northern boundary in the City of Salem. (0016-2 [Elk, John])

Comment: As an interested participant in the ongoing safety drills and similar exercises conducted by PSEG to maintain their license to operate, I have been most impressed by their professionalism, attention to detail, and how smoothly the safety drills and/or the exercises have been conducted. (0016-3 [Elk, John])

Comment: We are in the midst, in our strategic planning and design, of creating the first green community, green treatment community, here in New Jersey. And PSEG nuclear is playing a lead role, economically in helping us create lead certified buildings, putting new sustainable energy in the area of geothermal and the use of solar, and creating not only an efficient environment, but a new learning environment for our youth, one of the first of its kind here in New Jersey. And we wouldn't be able to do that without the support of PSEG Nuclear. (0001-21-3 [Bailey, David])

Comment: The reactor accident at Chernobyl is frequently used to spread fear about commercial reactors in the U.S., and this is wrong. The Chernobyl reactor was designed to make plutonium for nuclear weapons, as well as to generate electricity. And it was because of that design, that an accident like Chernobyl's cannot happen at a commercial reactor in the United States. And, furthermore, the Chernobyl reactor was not protected by either a pressure vessel, or a containment building, whereas those two structures, at Three Mile Island, safely contained a melted core, and prevented any health damage. (0001-5-3 [Meadow, Norman])

Response: *This comment provides general information in favor of nuclear power. It does not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS.*

2.38 General Comments in Opposition to Nuclear Power

Comment: Solar and wind is safe, and clean energy. There is one concern with nuclear power. It is inherently dangerous, because of the nuclear reaction. And a classic

example is Chernobyl and Three Mile Island. Accidents do happen. So nuclear, you know, is a concern, because of its potential danger. And some people do have trouble sleeping at night, worrying about it. (0002-6-4 [Schneider, Richard])

Comment: Also, if there is a disaster, there are hundreds of thousands of people in the immediate danger zone, if there is an accident. You have all of Newcastle County, Wilmington, Philadelphia, Camden. If there is an accident, you never know, but a lot of people will be affected. Adding one more, you know, may not be such a good idea. (0002-6-8 [Schneider, Richard])

Response: *These comments provide general information in opposition to nuclear power. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. Issues related to safety are beyond the scope of the EIS and will be evaluated in the safety evaluation report.*

2.40 Comments Concerning Issues Outside Scope - Emergency Preparedness

Comment: The New Jersey Office of Emergency Management, NJOEM, has received and reviewed the Early Site Permit emergency plan for the PSEG site, also known as ESP Emergency Plan, and final updated evacuation time estimate study.

The NJOEM believes the proposed emergency plan is practicable. NJOEM has also reviewed an updated evacuation time estimate, and concurs, reviewed the evacuation time estimate, and concurs with the information in the final report.

The emergency planning provision require PSEG to obtain certifications and/or assurances, from local and state governmental agencies, for emergency planning, and to support emergency response, to any new plant, if constructed.

Therefore pursuant to the New Jersey Statutes, the New Jersey Office of Emergency Management provides the following assurances:

Number 1, the proposed emergency plan is practicable.

Number 2, NJOEM will fully participate in any further development of the plan, and required field demonstrations for this emergency plan.

Number 3, New Jersey is committed to executing our responsibilities, under the plans, in the event of an emergency.

Number 4, per the existing Memorandum of Understanding, NJOEM will continue to coordinate with the Delaware Emergency Management Agency, also known as DEMA, the Maryland Emergency Management Agency, MEMA, and the Pennsylvania Management Agency, also known as PEMA, on all mutual aid activities, to support the emergency planning, and response efforts of the PSEG nuclear units.

Over the years NJOEM has maintained a successful working partnership with PSEG, in

support of the existing Salem and Hope Creek Nuclear Generating Stations. It is our commitment to support emergency preparedness for this, as well as all hazards that may, potentially, impact the citizens of New Jersey. Therefore we will continue to work with PSEG, in their planning efforts for the ESP for the proposed PSEG site. (0001-16-1 [Verinoham, Brian])

Response: *These comments on emergency preparedness are outside the scope of the environmental review and will not be considered in the EIS. An evaluation of emergency preparedness will be part of the safety evaluation report (see 10 CFR 52.18).*

2.41 Comments Concerning Issues Outside Scope - Miscellaneous

Comment: Next, America's reliance on foreign energy imports continues to stress our economy, costing American's jobs, and putting the middle class, itself, at risk. A sound energy policy is in our nation's best interest, and nuclear energy must play an important role in that policy. (0001-17-8 [Hassler, Charles])

Comment: Next, America's reliance on foreign energy imports continues to stress our economy costing Americans jobs and putting the middle class itself at risk. A sound energy policy is in our nation's best interest and Nuclear energy must play an important role in that policy. (0005-9 [Hassler, Charles])

Response: *These comments are beyond the scope of the environmental review because the NRC has no role in developing energy policy. Further, the comments do not provide information relevant to the environmental effects of the proposed action and will not be evaluated in the EIS.*

2.43 Comments Concerning Issues Outside Scope - Safety

Comment: Also I feel that this facility's location, for the existing plant, and the addition of one more, is in the worse location possible. It is at sea level. Which means the concern is about tidal surge when we have a hurricane. It is right there, at sea level. Katrina had a tidal wave surge of 30 feet. When you have flooding, with the high tides, and the storm surge, that facility can be overrun with water. It is not in an ideal location. Hurricanes happen, they are natural. It hasn't happened yet, but it may some day. (0002-6-6 [Schneider, Richard])

Response: *The issues raised in this comment is related to safety and, as such, are outside the scope of the environmental review and will not be addressed in the EIS. Issues related to safety will be addressed in the safety evaluation report.*