

April 21, 2014

MEMORANDUM TO: Jennifer Dixon-Herrity, Branch Chief
Environmental Projects Branch
Division of New Reactor Licensing
Office of New Reactors

FROM: Tomeka L. Terry, Project Manager **/RA/**
Environmental Projects Branch
Division of New Reactor Licensing
Office of New Reactors

SUBJECT: SCOPING SUMMARY REPORT RELATED TO THE ENVIRONMENTAL
SCOPING PROCESS FOR THE BELL BEND NUCLEAR POWER
PLANT COMBINED LICENSE APPLICATION

The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing a revised environmental report (ER) submitted on March 30, 2012, by PPL Bell Bend, LLC (PPL) in support of its initial application for a combined license (COL) for the construction and operation of one new nuclear power plant at its Bell Bend Nuclear Power Plant (BBNPP) site near Berwick, Pennsylvania. This revised ER provides detailed information regarding PPL's revised site layout, which was developed to avoid wetland impacts by relocating the power block footprint and other plant components. The revised ER is available through the NRC's Agencywide Document Access Management System (ADAMS) and is accessible at <http://www.nrc.gov/reading-rm/adams.html> under the ADAMS accession number ML12145A242. The document is also available on the Internet at <http://www.nrc.gov/reactors/new-reactors/col/bell-bend/documents.html#application>.

On June 15, 2012, in accordance with Title 10 of the Code of Federal Regulations (CFR), Part 51.26, the NRC and the U.S. Army Corps of Engineers (USACE) initiated an opportunity for the public to participate in the scoping process on the revised site layout, by publishing a "Notice of Intent to Conduct a Supplemental Scoping Process on the Revised Site Layout," in the *Federal Register (FR)* (77 FR 36012). Through the *FR* notice, the NRC and USACE also invited PPL; Federal, Tribal, State, and local government agencies; local organizations; and the public to provide comments on the information regarding the revised site layout that was not available during the initial scoping process in 2009. The public participated in the scoping process by submitting written comments to the NRC by July 16, 2012. Comments received after July 16, 2012, were included.

The NRC staff has prepared the enclosed Scoping Summary Report which identifies comments received either by letter, or by electronic mail, and provides responses to those comments. In accordance with 10 CFR 51.29(b), all participants of the scoping process will be provided with a copy of the scoping summary report.

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J. Dixon-Herrity

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The next step in the environmental review process is the issuance of a draft environmental impact statement (EIS). Notice of the availability of the draft EIS and the procedures for providing comments will be published in an upcoming *FR* notice.

Docket No.: 52-039

Enclosure:
As stated

cc: See next page

J. Dixon-Herrity

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Docket No.: 52-039

Enclosure:
As stated

cc: See next page

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RidsNroDnrlEpb2 Resource

PKrohn, DRP, R1

AHove, OGC

CSanders, NRR

PFinney, R1

ADAMS Accession No.: ML14024A659 *see previous concurrence

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**Environmental Impact Statement
Scoping Process**

Summary Report

**Bell Bend Nuclear Power Plant
Combined License
Luzerne County, Pennsylvania**

January 2014



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

1.0 Introduction

By letter dated October 10, 2008, the U.S. Nuclear Regulatory Commission (NRC) received an application from PPL Bell Bend, LLC (PPL) for a combined license (COL) for the Bell Bend Nuclear Power Plant (BBNPP). The proposed site for the BBNPP is located west of, but separate from, the existing Susquehanna Steam Electric Station (SSES), Units 1 and 2, in Luzerne County, Pennsylvania, on the Susquehanna River approximately 5 mi northeast of Berwick, Pennsylvania, and approximately 115 mi northwest of Philadelphia, Pennsylvania.

As part of the COL application, PPL submitted an Environmental Report (ER) prepared in accordance with the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51, which contains the NRC's regulations implementing the National Environmental Policy Act of 1969, as amended (NEPA). The NRC also follows Council on Environmental Quality NEPA 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 COL applications are contained in 10 CFR Part 51 and 10 CFR Part 52, Subpart C. The requirements for preparation and submittal of ERs to the NRC are outlined in 10 CFR 51.53(c)3. The ER describes the potential environmental impacts of construction and operation of a nuclear unit at the BBNPP site. It also includes a description of mitigating actions and an evaluation of the environmental consequences of alternatives, including the no-action alternative, energy alternatives, alternative sites, and alternative plant cooling systems.

Since 2008, PPL has submitted four revisions of the ER. The original ER and all subsequent revisions are available in the NRC Agency wide Documents Access and Management System (ADAMS) under Accession Nos. ML082890680, ML090710517, ML101890280, ML12145A242, and ML13120A411, respectively. All revisions are also available on the Internet at <http://www.nrc.gov/reactors/new-reactors/col/bell-bend/documents.html>. ADAMS is accessible at <http://www.nrc.gov/reading-rm/adams.html>. Members of the public who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC Public Document Room reference staff by telephone at 1-800-397-4209 or 301-415-4737, or via e-mail at pdr@nrc.gov.

The U.S. Army Corps of Engineers (USACE), Baltimore District, is reviewing a joint permit application (JPA) and 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 COLs can be found in ADAMS under Accession No. ML082540354. The JPA can be found under Accession No. ML13057A754.

The NRC and USACE staff are preparing an environmental impact statement (EIS) that will document the environmental review of the PPL COL application. The NRC's proposed action being evaluated is NRC's issuance of a COL to PPL to build and operate a new baseload nuclear power generation facility—BBNPP. The EIS will include an evaluation of the environmental impacts of the proposed action, the environmental impacts of alternatives to the proposed action, including the no-action alternative; alternatives related to the facility cooling- and circulating-water systems; and alternatives available for reducing or avoiding adverse environmental effects. The EIS will also address alternative energy options. Finally, the EIS will

include an evaluation of alternative sites to determine if there is an obviously superior alternative to the proposed site. The NRC staff is also conducting a safety review of the BBNPP COL application in accordance with NUREG-0800, *Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition, Revision 6*.

The NRC and USACE conducted a public scoping process for the original ER from January 6 through March 9, 2009 (74 FR 470). The scoping summary report for the original BBNPP scoping process is available in ADAMS under Accession No. ML091760096. Revision 3 of the ER, submitted by PPL on March 30, 2012, specifically addressed changes to the layout of the proposed facility at the Bell Bend site. On June 15, 2012, in accordance with 10 CFR 51.26, the NRC and the USACE initiated an opportunity for the public to participate in the scoping process on the revised site layout, by publishing a "Notice of Intent to Conduct a Supplemental Scoping Process on the Revised Site Layout" in the *Federal Register* (77 FR 36012). Through the notice, the NRC and USACE also invited PPL; Federal, Tribal, State, and local government agencies; local organizations; and the public to provide comments on the information regarding the revised site layout that was not available during the initial scoping process in 2009. The public participated in the scoping process by submitting written comments to the NRC by July 16, 2012. Comments received after July 16, 2012, were included.

The scoping process provided an opportunity for stakeholders to identify issues to be addressed in the EIS and consider concerns and issues related to the revised site layout. The Notice of Intent (77 FR 36012) identified the following objectives of the scoping process:

- Determine how the new information on the revised site layout impacts the scope of the EIS and identify significant issues regarding the revised site layout to be analyzed in depth.
- Identify and eliminate from detailed study those issues that are peripheral or that are not significant as they pertain to the revised site layout.
- Identify any environmental assessments and other EISs that are being prepared or will be prepared that are related to the new information on the revised site layout.
- Identify other environmental review and consultation requirements related to the revised site layout.
- Identify parties consulting with the NRC and the USACE under the National Historic Preservation Act of 1966, as set forth in 36 CFR 800.8(c)(1)(i).
- Identify any additional cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completing the EIS to the NRC, USACE, and any additional cooperating agencies.
- Identify how the EIS preparation will include the revised site layout and identify any contractor assistance to be used.

Documents submitted in response to the Notice of Intent (77 FR 36012) are listed in Table 1-1. Table 1-1 identifies the individuals providing comments in alphabetical order, their affiliation, if provided, and the ADAMS accession number that can be used to locate the associated correspondence. Accession numbers indicate the location of the written comments in ADAMS.

Comments were consolidated and categorized according to topic within the proposed EIS or according to the general topic if outside the scope of the EIS. Comments with similar specific objectives were combined to capture the common essential issues that had been raised in the source comments. Once comments were grouped according to subject area, NRC staff determined the appropriate response for the comment. The comment categories are listed in Table 1-2 in the order presented in this document.

Table 1-3 lists the comment categories in alphabetical order, with commenter names and correspondence identification (ID) number (document number-comment number) for each comment identified for each category. The rest of this document presents the comments with the NRC and USACE staff responses organized by topical category.

Table 1-1. Individuals Providing Comments During the Comment Period

Commenter	Affiliation (if stated)	Comment Source (ADAMS Accession #)	Correspondence ID
Boyer, Emilee	Pennsylvania Natural Heritage Program	Letter (ML12200A032)	0006
Cartica, Robert	New Jersey Natural Heritage Program	Email (ML12187A055)	0001
DeRonde, Barbara and Robert		Email (ML12199A455 and ML12201A082)	0010
Epstein, Eric	TMI-Alert	Email (ML12200A220 and ML12205A059)	0009
Jumper, Kim	Shawnee Tribe	Email (ML12201B503)	0005
Martin, David	IBOEHA	Email (ML12198A636)	0003
Mowrey, Olivia	Pennsylvania Game Commission	Email (ML12311A156)	0011
Mowrey, Olivia	Pennsylvania Game Commission	Email (ML12311A157)	0012
Mowrey, Olivia	Pennsylvania Game Commission	Email (ML12311A158)	0013
Mowrey, Olivia	Pennsylvania Game Commission	Email (ML12311A159)	0014
Richenderfer, James	Susquehanna River Board Commission	Email (ML12199A454 and ML12209A052)	0004
Williams, Corina	Oneida Tribe of Indians of Wisconsin	Letter (ML12195A236)	0007

Table 1-2. Comment Categories in Order Presented in this Report

1.1 Comments Concerning Process – COL
1.2 Comments Concerning Process – NEPA
1.3 Comments Concerning Hydrology – Surface Water
1.4 Comments Concerning Hydrology – Groundwater
1.5 Comments Concerning Ecology – Terrestrial
1.6 Comments Concerning Ecology – Aquatic
1.7 Comments Concerning Socioeconomics
1.8 Comments Concerning Historic and Cultural Resources
1.9 Comments Concerning Meteorology and Air Quality
1.10 Comments Concerning Health – Nonradiological
1.11 Comments Concerning Health – Radiological
1.12 Comments Concerning Alternatives – Energy
1.13 Comments Concerning Alternatives – System Design
1.14 Comments Concerning Benefit-Cost Balance
1.15 General Comments in Opposition to the Licensing Action
1.16 Comments Concerning Issues Outside Scope – Miscellaneous
1.17 Comments Concerning Issues Outside Scope – NRC Oversight
1.18 Comments Concerning Issues Outside Scope – Safety

Table 1-3. Comment Categories with Associated Commenters and Comment Identification Numbers (ID)

Comment Category	Commenter (Comment ID)
Alternatives-Energy	<ul style="list-style-type: none"> • Martin, David (0003-2) • DeRonde, Barbara and Robert (0010-16) (0010-20) (0010-25)
Alternatives-System Design	<ul style="list-style-type: none"> • Richenderfer, James (0004-2)
Benefit-Cost Balance	<ul style="list-style-type: none"> • Martin, David (0003-4)
Ecology-Aquatic	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-18) • Epstein, Eric (0009-3) (0009-8) (0009-11) (0009-17) (0009-19) (0009-23) (0009-27) (0009-28) (0009-29) • Richenderfer, James (0004-4) (0004-5) (0004-9)
Ecology-Terrestrial	<ul style="list-style-type: none"> • Boyer, Emilee (0006-1) (0006-2) • Cartica, Robert (0001-1) • Epstein, Eric (0009-13) • Mowrey, Olivia (0011-1) (0011-2) (0012-1) (0012-2) (0013-1) (0013-2) (0014-1) (0014-2) • Richenderfer, James (0004-7)

Table 1–3. (contd)

Comment Category	Commenter (Comment ID)
Health-Nonradiological	<ul style="list-style-type: none"> • Epstein, Eric (0009-10)
Health-Radiological	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-3) (0010-13) • Epstein, Eric (0009-1)
Historic and Cultural Resources	<ul style="list-style-type: none"> • Jumper, Kim (0005-1) • Williams, Corina (0007-1)
Hydrology-Groundwater	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-4) (0010-12) • Epstein, Eric (0009-9) • Richenderfer, James (0004-6)
Hydrology-Surface Water	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-21) • Epstein, Eric (0009-2) (0009-4) (0009-5) (0009-7) (0009-14) (0009-15) (0009-20) (0009-22) (0009-24) (0009-26) (0009-28) (0009-30) (0009-31) • Richenderfer, James (0004-1) (0004-3)
Meteorology and Air Quality	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-6)
Opposition-Licensing Action	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-2) (0010-7) (0010-15) (0010-17) (0010-23) • Martin, David (0003-1)
Outside Scope-Miscellaneous	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-22)
Outside Scope-NRC Oversight	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-9) (0010-11)
Outside Scope-Safety	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-1) (0010-10) (0010-14) (0010-19) (0010-24) • Epstein, Eric (0009-6) • Martin, David (0003-3)
Process-ESP-COL	<ul style="list-style-type: none"> • DeRonde, Barbara and Robert (0010-8)
Process-NEPA	<ul style="list-style-type: none"> • Epstein, Eric (0009-16) (0009-18) (0009-21) (0009-25) • Richenderfer, James (0004-8) (0004-10)
Socioeconomics	<ul style="list-style-type: none"> • Epstein, Eric (0009-12)

2.0 BBNPP Combined License Public Scoping Comments and Responses

The comments and suggestions received as part of the supplemental scoping process are compiled and discussed below. Comments are grouped by category. Parenthetical numbers after each comment refer to the correspondence ID number (document number-comment number) and the commenter name. Except for some minor formatting of listed items, the comment text is included unedited as it was received from the commenters.

The draft EIS will consider the issues raised during the scoping process that are within the purview of the NRC's environmental review. The comment period for the draft EIS will offer the next opportunity for interested Federal, State, Tribal, and local government agencies; local organizations; and the public to provide input to the NRC and USACE environmental review process. Comments received for the draft EIS will be considered in the preparation of the final EIS which, along with the NRC staff's Safety Evaluation Report (SER), will be considered in the decision by the NRC on PPL's COL application for the BBNPP.

2.1 Comments Concerning Process – COL

Comment: To date, based upon the attendance of community members at the NRC's last public assessment meeting in February, community participation appeared to be very poor - most likely because the NRC and the EPA do not do as good a job as needed try and engage the community and seek out their opinions. Has any one of the federal agencies ever conducted a survey, sent someone house to house to ask how they feel about another reactor being in their back yard? Has anyone ever informed the public about the risks associated with aging nuclear power plants and groundwater contamination, so that they can make an informed decision as to whether they want to risk living in Salem Twp. any more. It is the only ethical and professional thing to do, regardless of the public relations consequences. Has any one ever bothered to send all of the property owners and residents of the township notice about the massive amount of ground water PPL will take out of the ground to construct the foundation for their reactor? Again this should not be a matter of notifying people whose property lines are contiguous with PPL; the groundwater removal work will have a widespread impact on the entire community which the youthful members of the Federal government do not seem to either understand, appreciate, or care enough about the citizens to inform them. It is better to inform people up front so they can move instead of making them angry in the future, which only results in lawsuits. The people and property owners of Salem Twp. are children of God and deserve to be treated with respect. This is why meetings should be publicized by the NRC, EPA, the SRBC, and the EPA not just one newspaper, but in all papers that cover the entire region It should be a requirement of each project manger and a PPL employee to coordinate and notify the people well in advance. People don't read the Federal Register, let alone know about its existence. Again, this is an example of lack of communication between the government and people who live in the real world. Though PPL may not think that it is to their advantage to allow the people to become informed, the truth of the matter, partnerships last longer than fiefdoms and serfs. It is just our observation, the lack of communication between the government and the public, suggests to us that the public has no say, that our democracy has given way to an oligarchy.

Who is going to take the time to organize a meeting on this issue soon, as it not one that should wait or occur a year from now? The NRC and PPL need to be more transparent with the public and keep a majority of the people informed about his project as it affects human lives, personal property, and property values; this project is something that should be taken lightly by anyone. (0010-8 [DeRonde, Barbara and Robert])

Response: *The public comment period for collecting scoping comments was from January 6, 2009 through March 9, 2009, and then again from June 15, 2012 through July 16, 2012. In addition, a public meeting was held in Berwick, Pennsylvania, on January 29, 2009. Multiple announcements were published in local newspapers, such as the Press-Enterprise, the Standard-Speaker, and the Times Leader, noting the availability of the January 29, 2009, meeting. In addition, announcements in the Federal Register were published on January 6, 2009, and June 15, 2012. Another meeting will be held after the draft is published to collect comments on the draft. That meeting will also be announced in the local newspapers and the Federal Register. The staff considers the public comment period sufficient time for public review and comment, and the method for public notice sufficient.*

Chapter 1 of the EIS will outline the USACE role in the EIS, its permit evaluation process, and regulations it must meet. PPL has submitted a Joint Permit Application to the USACE for Department of the Army (DA) approval to construct the project that proposes structures in and under navigable waters and to discharge dredged, excavated, and/or fill material into waters of the United States, including jurisdictional wetlands. The USACE released their first public notice (PN -12-07) on January 23, 2012, and the public was given the opportunity to respond, including requests for public hearings. This public notice was sent to all adjacent property owners within the vicinity of the proposed action and was also published on the USACE District website. A 30-day time frame was given to submit comments back to the USACE. The USACE considers this comment period sufficient time for public review and comment. Several comments were received in response to PN-12-07. All comments received will be considered by the USACE to determine whether to issue, modify, condition, or deny a permit for this action. Comments received will become part of the public record for this action and will determine the overall public interest of the proposed action. Upon the release of the draft EIS, the USACE will issue a second public notice, which will include notification for a public hearing. (BBNP-COL1-SS0024R)

2.2 Comments Concerning Process – NEPA

Comment: General Comments. In its ongoing review, SRBC has provided a number of comments on the applications to PPL. Detailed comments related to the technical review are documented in correspondence between PPL and the SRBC, copies of which are distributed to other interested agencies, including the NRC.

In addition to providing written comments, SRBC staff has regularly participated in conference calls and periodic meetings with PPL, and it is staff's understanding that PPL is actively working to resolve the comments and concerns raised in the letters. (0004-8 [Richenderfer, James])

Response: *The review team appreciates the comment submitted by the Susquehanna River Board Commission (SRBC) and will work with the SRBC staff as it prepares the EIS. (BBNP-COL1-SS0016R)*

Comment: Considering the schedule that PPL will submit information required by SRBC's review process and the time necessary to coordinate with other agencies of our member jurisdictions, it is unlikely that the SRBC could act on the PPL applications during 2012. However, staff recommendations should be nearing completion before yearend, which would allow for SRBC commissioner action at its first 2013 quarterly meeting (March 2013). (0004-10 [Richenderfer, James])

Response: *By letter dated March 26, 2013 (NRC Accession No. ML13093A021), the SRBC informed PPL that additional information will be needed to process the BBNPP application. Until this information is received, SRBC has suspended its review. (BBNP-COL1-SS0017R)*

Comment: PPL Bell Bend has not disclosed or quantified the how many fish (game and consumable), fish eggs, shellfish will be killed annually if this Application is approved. Is the Corps in possession of this data? Has it been made available to the public for review? Has the Corps established "acceptable levels" of fish kills? If so, where can that data be found? (0009-16 [Epstein, Eric])

Comment: What will the Corp's compliance reporting requirements be in regard to onsite 316 (a) and 316 (b) monitoring? Where will the results be published? Has the Corps and EPA executed a MOU? What will the Corps compliance reporting requirements be in regard to offsite tritium monitoring? Where will the results be published? (0009-18 [Epstein, Eric])

Comment: How will the Corps account for the loss of water? How will the Corps track the chemicals dispersion and maintain a "chain of custody?" How often will the Corps test for differential water temperatures? (0009-21 [Epstein, Eric])

Comment: The U.S. Army Corps of Engineers should convene public hearings pursuant to PPL Bend Nuclear Power Plant's ("Bell Bend") Application ("PPL" or "the Applicant") number NAB 20008-01401-P13 to the U.S. Army Corps of Engineers ("the Corps), Re: PPL Bend Nuclear Power Plant's Application Number NAB 20008-01401-P13. (0009-25 [Epstein, Eric])

Response: *The U.S. Army Corps of Engineers (USACE) is a cooperating agency and is part of the review team on this proposed action. The USACE's independent Record of Decision regarding the proposed permit will reference the analyses in the EIS and will present any additional information required by the USACE to support its permit decision. One purpose of the EIS will be to adequately fulfill the requirement of the USACE regulations and the Clean Water Act Section 404(b)(1) Guidelines. As part of the USACE public comment process, a public notice was released on January 23, 2012, to solicit comments from the public; Federal, State, and local agencies and officials; Indian tribes; and other interested parties. Upon release of the draft EIS, the USACE will issue a second public notice, which will include notification for a public hearing. The review team will consider impacts resulting from operation of the proposed BBNPP on the aquatic environment, including fish kills, temperature (thermal) effects, and the release of radionuclides in Chapter 5 of the EIS. Compliance with Sections 316(a) and (b) of the Clean Water Act will also be discussed in Chapter 5 of the EIS. (BBNP-COL1-SS0025R)*

2.3 Comments Concerning Hydrology – Surface Water

Comment: Nuclear power plants require large amounts of water for cooling purposes. PPL's Susquehanna Electric Steam Station power plant already removes large amounts water from

the Susquehanna River. Animals and people who depend on these aquatic resources will also be affected Refer to Charts A-1 and A-2). [Tables A-1 and A-2 can be found at ADAMS Accession No. ML12200A220.] (0009-14 [Epstein, Eric])

Comment: The Applicant did not adequately consider the additional and aggregate impact another nuclear power plant will have on environment, habitat and ecosystem.

The magnitude of the amount of water used at nuclear power plants is readily evidence at PPL's Susquehanna Steam Electric Station located on the Susquehanna River in Luzerne County. (4) The plant draws 0.86 million gallons per day from the Susquehanna River. For each unit, 14.93 million gallons per day are lost as vapor out of the cooling tower stack while 11 million gallons per day are returned to the River as cooling tower basin blow down. On average, 29.86 million gallons per day are taken from the Susquehanna River and not returned. This data is public information, and can be easily referenced by reviewing PPL's Pennsylvania Environmental Permit Report. (0009-4 [Epstein, Eric])

Response: *Cumulative impacts result from the combined effects of the proposed action and past, present, and reasonably foreseeable actions, regardless of who takes the actions that occur in the same geographical area of interest. The impacts of the construction and operation of the proposed BBNPP on the Susquehanna River and adjacent lands would be added to other known or reasonably foreseeable actions and stressors within the defined geographic area of interest for each affected resource. The results of the cumulative impact analysis will be presented in Chapter 7 of the EIS. (BBNP-COL1-SS0006R)*

Comment: Consumptive Water Use. Consumptive use is defined by SRBC as the loss of water withdrawn from the basin through a process by which the water is not returned to the waters of the basin undiminished in quantity including, but not limited to, evaporation, transpiration by vegetation, incorporation in products during their manufacture, injection into a subsurface formation, and diversion out of basin. In accordance with SRBC regulations, PPL must propose (and the SRBC commissioners must approve) mitigation for its requested consumptive water use of 28 mgd. SRBC staff finds appropriate mitigation for consumptive use by a new facility of this magnitude and at this location must be in the form of compensatory water or discontinuance of use during designated low flow periods rather than payment of the mitigation fee.

PPL is proposing an innovative approach of pooling its various water storage "assets" to meet its consumptive use mitigation requirements at several existing projects within the basin and at the proposed BBNPP facility. This approach was presented to the commissioners in the form of a general concept and not a specific plan on June 23, 2011. PPL refers to the plan as the Stored Asset Plan (SAP). PPL has not made a formal submission to the SRBC of the SAP; however, applications for several assets within the SAP have been submitted for review. The U.S. Nuclear Regulatory Commission (NRC) and other appropriate agencies will be on the distribution list for relevant correspondence pertaining to the SAP. Some of the details required in the plan include a list of specific water supply assets located upstream of BBNPP that are being considered as part of the SAP proposal, including the proposed amount of mitigation and expected licensing/permitting or contractual actions for each asset. In addition to sources of storage being identified, all necessary agreements among the different entities, both within the PPL corporate structure and any other project sponsors or owners of assets, must be resolved prior to approval of an asset" into the SAP. As a separate action from the BBNPP applications,

SRBC staff will make a recommendation to the commissioners regarding acceptance, modification, or rejection of the consumptive use mitigation plan. (0004-1 [Richenderfer, James])

Comment: Water Withdrawal. In accordance with the standard contained in SRBC regulations, the surface water withdrawal and the groundwater withdrawal may not cause significant adverse impacts to the water resources of the basin. In its evaluation, SRBC staff may consider effects on streamflows and other users; water quality degradation that may be injurious to any existing or potential water use; effects on fish, wildlife, or other living resources or their habitat; and effects on low flows of perennial or intermittent streams. SRBC staff also considers the reasonable foreseeable water needs of a project. SRBC staff evaluates each proposed withdrawal to determine the need for a protective passby flow condition, which restricts the ability to take water during low flow conditions. SRBC staff undertakes that evaluation using criteria that are applicable to all surface water and groundwater withdrawals influencing surface water. This protocol, adopted in 2003, enables SRBC to evaluate the impact of the withdrawal and involves looking both upstream and downstream to assess cumulative impact, taking into account all other withdrawals and discharges and their impacts on the resource, particularly during low flow periods...Because a passby flow is the "trigger" for projects to cease their withdrawal during low flows, upstream storage is typically necessary for projects pursuing non-interruptible withdrawals to allow continued operations during all flow conditions. Should SRBC determine that the requested surface water withdrawal cannot be approved without a passby condition, PPL would need to provide for water storage upstream of BBNPP to assure that all sections of the Susquehanna River are protected during periods of low flow. (0004-3 [Richenderfer, James])

Comment: PPL's Application will further place pressure on limited water resources. Freshwater withdrawals by Americans increased by 8% from 1995-2000, and Americans per capita water withdrawal is three times above international average. (0009-15 [Epstein, Eric])

Comment: PPL Bell Bend ("BNPP" or "Bell Bend") has repeatedly ignored or failed to factor, consider and address numerous water use...to the Susquehanna River and its environs if this Application is approved. (0009-2 [Epstein, Eric])

Comment: Nuclear plants use millions of gallons daily for coolant and to perform normal industrial applications. There are five nuclear generation units on the Susquehanna River. Two plants, with three units, are located on the Lower Susquehanna, and have the capacity to draw in as much as half the flow of a River in a day. Bell Bend will increase the pressure on the River's resources.

In its application to the SRBC, PPL has requested approval for consumptive use of up to 31 mgd [million gallons per day] as a measure of conservatism and to account for variability within the range of monitoring accuracy required by SRBC. (0009-20 [Epstein, Eric])

Comment: Water quality,...thermal inversion and effluent discharges, need to be included and factored into the Bell Bend Application. (0009-22 [Epstein, Eric])

Comment: What actions will Bell Bend take to curb water use during periods of conservation and/ or drought? (0009-24 [Epstein, Eric])

Comment: The U.S. Army Corps of Engineers should compel the Applicant to address, factor and analyze water use...identified in TMI-Alert's comments. (0009-26 [Epstein, Eric])

Comment: The US. Nuclear Regulatory Commission should compel the Applicant to address, factor and analyze water use...identified in TMI-Alert's comments. (0009-28 [Epstein, Eric])

Comment: The US. Nuclear Regularity Commission should compel the Applicant to address, factor and analyze the issues raised by Arnold D. Gundersen in his Expert Testimony.

The US. Nuclear Regularity Commission should compel the Applicant to address, factor and analyze the issues raised by Keith L. Harner in his Technical Evaluation. [The testimony of Mr. Arnold D. Gunderson and Mr. Keith L. Harner can be found at ADAMS Accession No. ML12200A220.] (0009-30 [Epstein, Eric])

Comment: It is not uncommon for the plants to discharge chlorinated water (necessary to minimize bacterial contamination of turbines) or Clamtrol (chemical agent used to defeat Asiatic clam infestation) directly into the River. Will the water be treated with chemicals? How does PPL plan to defeat Asiatic clam and/ or Zebra mussel infestations? (0009-31 [Epstein, Eric])

Comment: The proposed PPL Bell Bend nuclear power plant will be one of the largest nuclear reactors in the world. "Due to its sheer size and because it also has a lower thermodynamic efficiency (discussed in detail below), Bell Bend will draw an inordinately large amount of water from the Susquehanna River in order to cool the reactor. (0009-5 [Epstein, Eric])

Comment: The Applicant did not address water quality, water use,...throughout the license application, but offered only cursory and superficial data, and failed to address numerous issues that could adversely impact the area surrounding the the proposed plant. (0009-7 [Epstein, Eric])

Comment: Based upon consultation with a professional hydrogeological engineering firm, the water in our, the undergrounds springs that feed our lake along with a steam thar comes off of the PPL prokject area that feeds our ponds, we anticipate the massive amount of groundwater which PPL plans on withdrawuig will severely deplete our supply of fresh water as well stress and kill our fish. No one to date has responded to us, where we have previously voiced the seriousness of this matter to the NRC as well as the UISACE. How are you going to protect the people, their natural and man-made resources and features from being totally destroyed. It does not appear that this project has been very thought out in terms of its impact on the human beings who live and own property on Confers Lane and with n the Village of Beach Haven and the Town of Berwick. (0010-21 [DeRonde, Barbara and Robert])

Response: *The review team will assess consumptive water use and water-quality impacts on the Susquehanna River and associated biological communities, including thermal inversion, effluent discharges, and impacts during drought conditions, from construction and operation of the proposed facility in Chapters 4 and 5, respectively. The SRBC is the primary regulatory authority for water withdrawals from the Susquehanna River. The review team will work closely with the SRBC and other state agencies during preparation of the EIS. (BBNP-COL1-SS0015R)*

2.4 Comments Concerning Hydrology – Groundwater

Comment: The groundwater withdrawal application for dewatering major excavations during construction of BBNPP is currently undergoing review. The review process typically requires 12 months to complete...SRBC staff also will analyze the impact of the power block and resultant

excess fill on groundwater withdrawal requests. With the withdrawal application, PPL also has submitted an aquifer testing waiver request. This waiver request is also under review. (0004-6 [Richenderfer, James])

Comment: The Applicant did not address...groundwater use...throughout the license application, but offered only cursory and superficial data, and failed to address numerous issues that could adversely impact the area surrounding the the proposed plant. (0009-9 [Epstein, Eric])

Comment: Having read the June 2011 report published by the GOE titled Nuclear Regulatory Commission Oversight of Underground Piping System Commensurate with Risk, but Proactive Measures Could Help Address Future Leaks. As a result of reading this document, we have gained a great deal of insight into a major problem at nuclear plants and its possible relationship to groundwater contamination... (0010-12 [DeRonde, Barbara and Robert])

Comment: The question for the Commissioner of the NRC and the EPA is: To what extent are you willing to sacrifice your values to damage the image of the current president or the future one, whoever that will be, by supporting literally a "deadly" site plant, one that places human beings at great risk of having their...groundwater contaminated during and after construction. The mere fact that the neighbors on Confer Lane informed my wife that their water ran red for a few weeks during and after PPL had finished doing some test borings, suggests to me that the distance of the Bell Bend reactor is far too close for the preservation of health and safety for people. (0010-4 [DeRonde, Barbara and Robert])

Response: *The groundwater system in the vicinity of the BBNPP site, as well as existing groundwater monitoring systems, will be described in Chapter 2 of the EIS. The effects of the construction and the operation of the plant on the local and regional groundwater resources and quality will be assessed in Chapters 4 and 5. Any groundwater monitoring systems proposed by the applicant will be discussed in Chapters 4 and 5. Cumulative impacts will be discussed in Chapter 7. (BBNP-COL1-SS0014R)*

2.5 Comments Concerning Ecology – Terrestrial

Comment: We have checked the Landscape Project habitat mapping and the Biotics Database for occurrences of any rare wildlife species or wildlife habitat on the referenced site. The Natural Heritage Database was searched for occurrences of rare plant species or ecological communities that may be on the project site. Please refer to Table 1 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented on site. A detailed report is provided for each category coded as Yes in Table 1. We have also checked the Landscape Project habitat mapping and Biotics Database for occurrences of rare wildlife species or wildlife habitat in the immediate vicinity (within ¼ mile) of the referenced site. Additionally, the Natural Heritage Database was checked for occurrences of rare plant species or ecological communities within ¼ mile of the site. Please refer to Table 2 (attached) to determine if any rare plant species, ecological communities, or rare wildlife species or wildlife habitat are documented within the immediate vicinity of the site. Detailed reports are provided for all categories coded as Yes in Table 2. These reports may include species that have also been documented on the project site. The Natural Heritage Program reviews its data periodically to identify priority sites for natural diversity in the State. Included as priority sites are some of the State's best habitats for rare and endangered species and ecological communities. Please refer to Tables 1 and 2 (attached) to determine if any priority sites are located on or in the vicinity of the site. A list of rare plant species and ecological communities that have been

documented from Warren County can be downloaded from <http://www.state.nj.us/dep/parksandforests/natural/heritage/countylist.html>. If suitable habitat is present at the project site, the species in that list have potential to be present. [The tables referred to by this comment can be found at ML12187A055.] (0001-1 [Cartica, Robert])

Comment: One of SRBC staff's concerns is that appropriate measures are taken to protect wetlands in the vicinity of the excavations. (0004-7 [Richenderfer, James])

Comment: No Impact Anticipated

PNDI [Pennsylvania Natural Diversity Inventory] records indicate species or resources of concern are located in the vicinity of the project; however, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, DCNR [Department of Conservation and Natural Resources] has determined that no impact is likely. Please see below for voluntary avoidance and conservation measures, and more information about the species occurrences known within the vicinity of the proposed project and alternative sites. No further coordination with our agency is needed for this project.

Bell Bend Site

PNDI records indicate there are no plant species or geologic features of concern in your project area; however, there are two terrestrial invertebrates of concern previously found onsite.

- *Euphydryas phaeton* (Baltimore Checkerspot, S3) is a butterfly species of concern known from previous surveys to be found onsite. It inhabits moist areas such as wet meadows, bogs, and marshes. The larvae of this species use Turtlehead, Hairy Beardtongue, English plantain, Foxglove and White Ash as host plants; adult food sources are nectar from Milkweed, Virburnums and Wild Rose.
- *Poanes massasoit* (Mulberry Wing, S2) is another butterfly species of concern known from previous collection on the project area. Habitat includes freshwater marshes or bogs. The larvae of this species use *Carex siricla* and other sedges as host plants; adult food source is flower nectar.

As a voluntary conservation measure, DCNR suggests using these host and food species in your eventual revegetation plan; this would provide additional habitat for these species. Because these species utilize bog and wet, marshy areas as habitat, DCNR suggests avoiding and minimizing impacting wetlands onsite. (0006-1 [Boyer, Emilee])

Comment: Nuclear power plants require large amounts of water for cooling purposes. PPL's Susquehanna Electric Steam Station power plant already removes large amounts of water from the Susquehanna River. Animals...who depend on these aquatic resources will also be affected Refer to Charts A-1 and A-2). [Tables A-1 and A-2 can be found at ADAMS Accession No. ML12200A220.] (0009-13 [Epstein, Eric])

Comment: This letter is pertaining to the PNDI review that was completed for the BBNPP site located in Salem Township, Luzerne County, Pennsylvania.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office, as well as PNDI data, and has determined that potential impacts to the following endangered species may be associated with your project:

<u>Scientific Name</u>	<u>Common Name</u>	<u>PA Status</u>	<u>Federal Status</u>
<i>Myotis sodalis</i>	Indiana Bat	ENDANGERED	ENDANGERED
<i>Myotis leibii</i>	Eastern Small-footed Myotis	THREATENED	N/A
<i>Myotis septentrionalis</i>	Northern myotis	SPECIAL CONCERN	N/A

Next Steps

Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service.

Additionally, because of their ecological significance, the following seasonal restriction is suggested to avoid potential impacts to *Myotis leibii*, *Myotis septentrionalis*, and other bats within the area. All trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the project (including any access roads or off-R.O.W. work spaces) shall be cut between November 16 and March 31. (0012-1 [Mowrey, Olivia])

Comment: Conservation Measure(s)

National Wetland Inventory Mapping (NWI) and/or aerial photos suggest that wetlands may be located within the project area along Walker Run and several unnamed tributaries of the Susquehanna River. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat. (0012-2 [Mowrey, Olivia])

Response: *The impacts of construction and operation of the proposed BBNPP on the terrestrial environment, including wetlands and species or resources of concern, will be discussed in Chapters 4 and 5, respectively, of the EIS. Cumulative impacts will be discussed in Chapter 7. Pursuant to Section 7 of the Endangered Species Act, on June 12, 2012, the NRC initiated informal consultation with the U.S. Fish and Wildlife Service (USFWS). (BBNP-COL1-SS0001R)*

Comment: Montour Site

PNDI records indicate there are no plant species or geologic features of concern known within the project area; however, there three plant species are known within the project vicinity.

- *Dichanthelium villosissimum* var. *villosissimum* (Long-haired Panic-grass; Currently Tentatively Undetermined, Proposed State-listed Endangered) is a plant species that can be found in dry woods and serpentine barrens. This occurrence of Long-haired Panic-grass is new in the PNDI system since DCNR's last letter regarding this project in 2009; it was observed nearby along a disturbed field edge in 1994.
- *Pinus echinata* (Short-leaf Pine; no current state status, Proposed Tentatively Undetermined) is an evergreen tree that was observed in 1956 1.5 miles east of

strawberry ridge. Habitat for Short-leaf Pine is wooded slopes and ridges, in low nutrient soil.

- *Rotala ramosior* (Tooth-cup, State-listed Rare) is a plant that inhabits wet sandy shores and swampy, open ground; it flowers July through September. Tothcup was found nearby in 2004 along a shoreline.

If *Pinus echinata*, *Rotala ramosior*, or their critical habitat is found onsite, DCNR suggests voluntary avoidance or minimization. Because of its proposed status of Endangered, if critical habitat for *D. villosissimum* var. *villosissimum* will be disturbed, DCNR highly suggests a voluntary botanical survey be conducted during the appropriate time of year to determine the presence or absence of this species within the project area. Survey protocol information can be found at <http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx>. Please contact our office if you desire more information about this occurrence.

Humboldt Site

PNDI records indicate one resource of concern within the Humboldt Site boundary; the community Scrub Oak Shrubland (S3) is known within the Humboldt alternative site. DCNR recommends voluntary avoidance and minimization of impacts to this community. Please see <http://www.naturalheritage.state.pa.us/factsheets/16086.pdf> for more information on Scrub Oak Shrublands.

Seedco Site

PNDI records indicate there are no resources of concern within the Seedco site boundary; however, there is a rare moth, *Hypagyrtis ester* (Ester moth, S2S3) known in the project vicinity. The Ester moth was found near strip mines with patches of pines and scrubby grasslands. The most common habitat type for Ester moths is presumably in or near pines, as their larvae feed only on pine; it is most common in July and August. This response represents the most up-to-date review of the PNDI data files and is valid for two years. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. For PNDI project updates, please see the PNHP website at www.naturalheritage.state.pa.us for guidance. As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review. (0006-2 [Boyer, Emilee])

Comment: This letter is pertaining to the PNDI review that was completed for the Humboldt site located in Hazle Township, Luzerne County, Pennsylvania.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern birds and mammals may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below.

<u>Scientific Name</u>	<u>Common Name</u>	<u>PA Status</u>	<u>Federal Status</u>
<i>Myotis sodalis</i>	Indiana Bat	ENDANGERED	ENDANGERED
<i>Myotis leibii</i>	Eastern Small-footed Myotis	THREATENED	N/A
<i>Myotis septentrionalis</i>	Northern Myotis	SPECIAL CONCERN	N/A

Next Steps

Indiana bats are a federally listed endangered species under the jurisdiction of the U.S. Fish and Wildlife Service. As a result, our agency defers comments on potential impacts to Indiana bats to the U.S. Fish and Wildlife Service. Additionally, the following surveys should be performed for above listed species so that a more accurate determination can be made:

- Eastern small-footed bat habitat assessment. All rocky habitat that may offer suitable roost sites for eastern small-footed bats should be completely delineated (with GIS shapefiles provided), and photo-documented within the above-mentioned area. Any rocky habitat that is identified, but not considered to be suitable eastern small-footed bat roost habitat should also be photo-documented and a written narrative shall be provided describing the reason(s) for its non-suitability.
- Bat hibernacula investigation. To determine whether this project will affect any potential bat hibernacula, the project area should be surveyed for mine and cave openings. All openings should be accurately mapped using a GPS unit. If potential hibernacula occur within the project area, these openings should be evaluated and sampled if necessary, using the revised Protocol for Assessing Abandoned Mines/Caves for Bat Surveys dated September 10, 2012 (attached). Bat hibernacula sampling should be conducted by a qualified bat surveyor on the U.S. Fish and Wildlife Service Qualified Indiana Bat Surveyor list. Suitable eastern small-footed bats that are captured during hibernacula sampling should be radio-tracked following the PGC's Standard and Minimum Effort Requirements for Qualified Indiana Bat Surveyor Netting within the Commonwealth of Pennsylvania for Environmental Review Projects (attached).
- Bat mist netting with telemetry for state threatened and endangered species. A minimum of two mist nest sites within the project area shall be surveyed between May 15 and August 15 following the PGC's Standard and Minimum Effort Requirements for Qualified Indiana Bat Surveyor Netting within the Commonwealth of Pennsylvania for Environmental Review Projects (attached). Mist net surveys should be conducted by a qualified bat surveyor listed on the U.S. Fish and Wildlife Service Qualified Indiana Bat Surveyor list. Suitable eastern small-footed bats that may be captured during the mist net survey should be radio-tracked following the above-referenced PGC guidance.

A copy of the U.S. Fish and Wildlife Service Qualified Indiana Bat Surveyor list can be obtained from the U.S. Fish and Wildlife Services State College, PA field office. A PGC Special Use Permit will need to be obtained by the consultant prior to conducting any of the above listed surveys that involve the handling of bats. Finally, a draft survey plan shall be submitted at least 30 days prior to initiating the above listed surveys for PGC review and concurrence. [Attachments can be found at ADAMS Accession No. ML12311A156.] (0011-1 [Mowrey, Olivia])

Comment: Conservation Measure

National Wetland Inventory Mapping (NWI) suggests that wetlands may be located within the project area and/or the vicinity. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat. (0011-2 [Mowrey, Olivia])

Comment: This letter is pertaining to the PNDI review that was completed for the Montour site located in Derry Township, Montour County, Pennsylvania.

No Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, the PGC has determined that no impact is likely. Therefore, no further coordination with the PGC will be necessary for this project at this time. (0013-1 [Mowrey, Olivia])

Comment: Conservation Measure

National Wetland Inventory Mapping (NWI) suggests that wetlands may be located within the project area and/or the vicinity. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat. (0013-2 [Mowrey, Olivia])

Comment: This letter is pertaining to the PNDI review that was completed for the Seedco site located in Coal Township, Northumberland County, Pennsylvania.

Potential Impact Anticipated

PNDI records indicate species or resources of concern are located in the vicinity of the project. The PGC has received and thoroughly reviewed the information that you provided to this office as well as PNDI data, and has determined that potential impacts to threatened, endangered, and species of special concern birds and mammals may be associated with your project. Therefore, additional measures are necessary to avoid potential impacts to the species listed below.

<u>Scientific</u>	<u>Name Common</u>	<u>PA Status</u>
<i>Myotis leibii</i>	Eastern Small-footed Myotis	THREATENED
<i>Myotis septentrionalis</i>	Northern Myotis	SPECIAL CONCERN

Next Steps

Additionally, the following surveys should be performed for above listed species so that a more accurate determination can be made:

- Eastern small-footed bat habitat assessment. All rocky habitat that may offer suitable roost sites for eastern small-footed bats should be completely delineated (with GIS shapefiles provided), and photo-documented within the above-mentioned area. Any rocky habitat that is identified, but not considered to be suitable eastern small-footed bat roost habitat should also be photo-documented and a written narrative shall be provided describing the reason(s) for its non-suitability.
- Bat hibernacula investigation. To determine whether this project will affect any potential bat hibernacula, the project area should be surveyed for mine and cave openings. All

openings should be accurately mapped using a GPS unit. If potential hibernacula occur within the project area, these openings should be evaluated and sampled if necessary, using the revised Protocol for Assessing Abandoned Mines/Caves for Bat Surveys dated September 10, 2012 (attached). Bat hibernacula sampling should be conducted by a qualified bat surveyor on the U.S. Fish and Wildlife Service Qualified Indiana Bat Surveyor list. Suitable eastern small-footed bats that are captured during hibernacula sampling should be radio-tracked following the PGC's Standard and Minimum Effort Requirements for Qualified Indiana Bat Surveyor Netting within the Commonwealth of Pennsylvania for Environmental Review Projects (attached).

- Bat mist netting with telemetry for state threatened and endangered species. A minimum of two mist nest sites within the project area shall be surveyed between May 15 and August 15 following the PGC's Standard and Minimum Effort Requirements for Qualified Indiana Bat Surveyor Netting within the Commonwealth of Pennsylvania for Environmental Review Projects (attached). Mist net surveys should be conducted by a qualified bat surveyor listed on the U.S. Fish and Wildlife Service Qualified Indiana Bat Surveyor list. Suitable eastern small-footed bats that may be captured during the mist net survey should be radio-tracked following the above-referenced PGC guidance.

A copy of the U.S. Fish and Wildlife Service Qualified Indiana Bat Surveyor list can be obtained from the U.S. Fish and Wildlife Services State College, PA field office. A PGC Special Use Permit will need to be obtained by the consultant prior to conducting any of the above listed surveys that involve the handling of bats. Finally, a draft survey plan shall be submitted at least 30 days prior to initiating the above listed surveys for PGC review and concurrence. [Attachments can be found at ADAMS Accession No. ML12311A159.] (0014-1 [Mowrey, Olivia])

Comment: Conservation Measure

National Wetland Inventory Mapping (NWI) suggests that wetlands may be located within the project area and/or the vicinity. The PGC is requesting that the final project avoid, or at least minimize to the greatest practical extent, any adverse impacts to these resources and their associated wildlife habitat. (0014-2 [Mowrey, Olivia])

Response: *The impacts of construction and operation of a nuclear power plant at the proposed alternative sites (Montour, Humbolt, and Seedco) on the terrestrial environment, including species or resources of concern, will be discussed in Chapter 9 of the EIS. Pursuant to Section 7 of the Endangered Species Act, on June 12, 2012, the NRC initiated informal consultation with the U.S. Fish and Wildlife Service (USFWS). (BBNP-COL1-SS0002R)*

2.6 Comments Concerning Ecology – Aquatic

Comment: Lastly, our 83 acre property contains a man-made stocked lake and former raceway (now covered with lawn). Our lake is fed by underground springs, adjacent ponds on our land but which are fed by streams that come off PPL property. Any disturbance to the water features on their land will severely impact our lake and our fish, which have been there since the late 1960's, when it had been engineered and constructed under the Direction of Mr. George Perluk, Barbara DeRonde's father. We would appreciate it very much after conditioning the human factors and the impact this nuclear power plant or even gas-fired plant would have upon our stream's environment. (0010-18 [DeRonde, Barbara and Robert])

Response: *The review team (NRC staff) is coordinating the evaluation of environmental impacts, including aquatic impacts, with numerous Federal and State agencies, including the U.S. Fish and Wildlife Service, the Susquehanna River Basin Commission, the Pennsylvania Department of Environmental Protection, the Pennsylvania Fish and Boat Commission, and the Pennsylvania Game Commission. This coordination includes periodic meetings of the review team, Federal and State agencies, and the applicant. The impacts of construction and operation of the proposed BBNPP on the aquatic environment, including water quality and species or resources of concern, will be discussed in Chapters 4 and 5, respectively, of the EIS. The cumulative impacts of construction and operation will be presented in Chapter 7 of the EIS. (BBNP-COL1-SS0013R)*

Comment: Early in the review process, PPL chose to pursue alternative analyses (using Instream Flow Incremental Methodology [IFIM]) in hopes of supporting its contention that the routine passby requirement (20 percent average daily flow) is not needed to protect aquatic resources and downstream water uses. A panel of experts representing PPL, SRBC, and water resource agencies of SRBC's member jurisdictions, including the Pennsylvania Fish and Boat Commission (PFBC), U.S. Fish and Wildlife Service (USFWS), U.S. Geological Survey (USGS) and the Pennsylvania Department of Environmental Protection (PADEP), was convened and reviewed the design of aquatic studies and an IFIM study developed by PPL to assess the potential adverse impacts of BBNPP water withdrawals on the Susquehanna River. (0004-4 [Richenderfer, James])

Comment: PPL has completed most of the aquatic studies needed to analyze the passby flow requirement and have submitted them to SRBC in the JPA, and in a subsequent submission on April 27, 2012. Other aquatic studies are being conducted during the summer of 2012, including a mussel survey and a smallmouth bass study. SRBC staff's review of the IFIM study, in coordination with agencies of its member jurisdictions, is ongoing and may be complete to support SRBC action in March 2013. (0004-5 [Richenderfer, James])

Comment: PPL has finalized the scope of all remaining aquatic studies so that fieldwork can be accomplished during favorable flow conditions this summer. PPL anticipates that data and reports will be submitted to SRBC in the September 2012 time frame. (0004-9 [Richenderfer, James])

Response: *The review team appreciates the comments submitted by the Susquehanna River Board Commission (SRBC) and will work with the SRBC staff as it prepares the EIS. (BBNP-COL1-SS0026R)*

Comment: Nuclear power plants require large amount of water for cooling purposes. PPL's Susquehanna Electric Steam Station power plant already removes large amounts of water from the Susquehanna River. Animals...who depend on these aquatic resources will also be affected Refer to Charts A-1 and A-2). [Tables A-1 and A-2 can be found at ADAMS Accession No. ML12200A220.] (0009-11 [Epstein, Eric])

Response: *The impacts of operation of the proposed BBNPP on the aquatic environment, including the effects of water consumption on species or resources of concern, will be discussed in Chapter 5 of the EIS. (BBNP-COL1-SS0027R)*

Comment: What impact will the Application have on shad ladders? What impact will this Application have on sport and commercial fishing? (0009-17 [Epstein, Eric])

Response: *The impacts of operation of the proposed BBNPP on the aquatic environment, including the effects on migratory fish species and fishing, will be discussed in Chapter 5 of the EIS. (BBNP-COL1-SS0028R)*

Comment: It is not uncommon for the plants to discharge chlorinated water (necessary to minimize bacterial contamination of turbines) or Clamtrol (chemical agent used to defeat Asiatic clam infestation) directly into the River. Will the water be treated with chemicals? How does PPL plan to defeat Asiatic clam and/ or Zebra mussel infestations? (0009-19 [Epstein, Eric])

Comment: In addition, a number of infestations, specifically Asiatic clams and Zebra mussels, have required power plants to prepare plans to defeat these aquatic invasions. (0009-28 [Epstein, Eric])

Response: *The impacts of operation of the proposed BBNPP on the aquatic environment, including the effects of treatments used to control fouling of the cooling-water system and non-native clams and mussels, will be discussed in Chapter 5 of the EIS. (BBNP-COL1-SS0029R)*

Comment: ...fish kills,...need to be included and factored into the Bell Bend Application. (0009-23 [Epstein, Eric])

Response: *The impacts of operation of the proposed BBNPP on the aquatic environment will be discussed in Chapter 5 of the EIS. (BBNP-COL1-SS0030R)*

Comment: The U.S. Army Corp of Engineers should compel the Applicant to address, factor and analyze...site-specific aquatic challenges identified in TMI-Alert's comments. (0009-27 [Epstein, Eric])

Comment: The U.S. Nuclear Regulatory Commission should compel the Applicant to address, factor and analyze...site-specific aquatic challenges identified in TMI-Alert's comments. (0009-29 [Epstein, Eric])

Response: *The impacts of construction and operation of the proposed BBNPP on the aquatic environment, including water quality and species or resources of concern, will be discussed in Chapters 4 and 5, respectively, of the EIS. The cumulative impacts of construction and operation will be presented in Chapter 7 of the EIS. (BBNP-COL1-SS0031R)*

Comment: PPL Bell Bend ("BNPP" or "Bell Bend") has repeatedly ignored or failed to factor, consider and address numerous...site-specific aquatic challenges to the Susquehanna River and its environs if this Application is approved. (0009-3 [Epstein, Eric])

Response: *The stressors on the aquatic environments in the project area, including the Susquehanna River, will be discussed in Chapter 2 of the EIS. The potential interaction of the proposed BBNPP and those stressors will be discussed in Chapter 7 of the EIS. (BBNP-COL1-SS0032R)*

Comment: The Applicant did not address...aquatic communities,...entrainment and impingement,...throughout the license application, but offered only cursory and superficial data, and failed to address numerous issues that could adversely impact the area surrounding the the proposed plant. (0009-8 [Epstein, Eric])

Response: *The aquatic environments in the project area, including the Susquehanna River, will be discussed in Chapter 2 of the EIS. The impacts of operation of the proposed BBNPP on the aquatic environment, including the effects of entrainment and impingement on species of concern, will be discussed in Chapter 5 of the EIS. (BBNP-COL1-SS0033R)*

2.7 Comments Concerning Socioeconomics

Comment: Nuclear power plants require large amounts of water for cooling purposes. PPL'S Susquehanna Electric Steam Station power plant already removes large amounts water from the Susquehanna River...people who depend on these aquatic resources will also be affected Refer to Charts A-1 and A-2). [Tables A-1 and A-2 can be found at ADAMS Accession No. ML12200A220.] (0009-12 [Epstein, Eric])

Response: *The review team will evaluate the socioeconomic impacts on the community from construction and operation of the BBNPP, including recreational activities and subsistence fishing, in Chapters 4 and 5 of the EIS. Cumulative impacts will be discussed in Chapter 7. (BBNP-COL1-SS0021R)*

2.8 Comments Concerning Historic and Cultural Resources

Comment: The Shawnee Tribe's Tribal Historic Preservation Department concurs that no known historic properties will be negatively impacted by this project. We have no issues or concerns at this time, but in the event that archaeological materials are encountered during construction, use, or maintenance of this location, please re-notify us at that time as we would like to resume consultation under such a circumstance. (0005-1 [Jumper, Kim])

Comment: We have checked our records for burial, archeological and historical concerns and also any other cultural resource concerns regarding this License application and have no concerns to address at this time, however it does not exclude all of the other Wisconsin Tribes. At this time we would like you to defer this matter to the Haudasaunee Council. (0007-1 [Williams, Corina])

Response: *The review team requested the participation of the State Historic Preservation Office, the Advisory Council on Historic Preservation, and multiple federally recognized tribes in its scoping process. The review team will comply with the National Historic Preservation Act through its Section 106 National Environmental Policy Act process. The Haudasaunee Council was contacted on November 7, 2012. Appendix F will list key consultation correspondence, such as correspondence with the Haudasaunee Council. Historic and cultural resource impacts from the construction and operation of the proposed BBNPP will be addressed in Chapters 4 and 5 and cumulative impacts will be address in Chapter 7. (BBNP-COL1-SS0010R)*

2.9 Comments Concerning Meteorology and Air Quality

Comment: The question for the Commissioners of the NRC and the EPA is: To what extent are you willing to sacrifice your values to damage the image of the current President or the future one, whoever that will be, by supporting literally a "deadly" site plant, on that places human beings at great risk of having their...air...contaminated during and after construction. The mere fact that the neighbors on Confers Lane informed my wife that their water ran red for a few

weeks during and after PPL had finished doing some test borings, suggest to me that the distance of the Bell Bend reactor is far too close for the preservation of health and safety for people. (0010-6 [DeRonde, Barbara and Robert])

Response: *The review team will evaluate air-quality impacts from construction and operation of the BBNPP in Chapters 4 and 5, respectively, of the EIS. Cumulative impacts will be discussed in Chapter 7. (BBNP-COL1-SS0022R)*

2.10 Comments Concerning Health – Nonradiological

Comment: The Applicant did not address...microbiologic organisms throughout the license application, but offered only cursory and superficial data, and failed to address numerous issues that could adversely impact the area surrounding the the proposed plant. (0009-10 [Epstein, Eric])

Response: *Nonradiological human health impacts, including microbiological organisms, will be addressed in Chapters 4 and 5 of the EIS. Cumulative impacts of nonradiological human health impacts will be addressed in Chapter 7. (BBNP-COL1-SS0009R)*

2.11 Comments Concerning Health – Radiological

Comment: TMIA's membership have legitimate and historic concerns regarding radiological contamination resulting from radiological releases related to normal and abnormal operations that impact the value of its property, and interfere with the organization's rightful ability to conduct operations in an uninterrupted and undisturbed manner. (0009-1 [Epstein, Eric])

Comment: Having read the June 2011 report published by the GEO title Nuclear Regulatory Commission Oversight of Underground Piping Systems Commensurate with Risk, but Proactive Measures Could Help Address Future Leaks. As a result of reading this document, we have gained a great deal of insight into a major problem at nuclear plants and its possible relation ship to...cancer. (0010-13 [DeRonde, Barbara and Robert])

Comment: The question for the Commissioners of the NRC and the EPA is: To what extent are you willing to sacrifice your values to damage the image of the current President or the future one, whoever that will be, by supporting literally a "deadly" site plan, one that places human beings at great risk of having their soil air and groundwater contaminated during and after construction. The mere fact that the neighbors on Confers Lane informed my wife that their water ran red for a few weeks during and after PPL had finished doing some test borings, suggests to me that the distance of the Bell Bend reactor is far to close for the preservation of health and safety for people. (0010-3 [DeRonde, Barbara and Robert])

Response: *The human health impacts of releases of radiological effluents from BBNPP to the environment will be evaluated in Chapters 4 and 5 of the EIS. Cumulative impacts will be discussed in Chapter 7 of the EIS. (BBNP-COL1-SS0005R)*

2.12 Comments Concerning Alternatives – Energy

Comment: The area now has an abundant supply of natural gas, representing a much safer power production technology that has no long term storage requirements for spent fuel and waste. (0003-2 [Martin, David])

Comment: We would prefer that Bell Bend project be shelved for a safer, more cost effective energy alternative - a natural gas-fired plant, but not anywhere near the existing Susquehanna reactor or our property. (0010-16 [DeRonde, Barbara and Robert])

Comment: The cost to good will is not worth what will follow if they proceed with their plans. I agree with my wife Barbara that safest, most cost effective solution is for PPL to move toward a gas-fired, but not in close proximity to the people on Conners Lane or any where near their existing reactors for fire safety reasons (0010-20 [DeRonde, Barbara and Robert])

Comment: It is time for PPL mature and to move on to a safer technology for producing money for its executives and stockholders as it produces energy for use in New York City & New Jersey. (0010-25 [DeRonde, Barbara and Robert])

Response: *Decisions regarding which alternative generation sources and alternatives to deploy are made by the applicant and regulatory bodies such as State energy planning agencies. The alternative energy sources must be technically viable, feasible, and competitive. Impacts from alternative actions such as the no-action alternative, new energy generation alternatives (including natural gas and renewable energy such as wind and solar), purchased electrical power, and a combination of alternatives will be considered in Chapter 9 of the EIS. (BBNP-COL1-SS0018R)*

Comments Concerning Alternatives – System Design

Comment: SRBC regulations also require that major projects explore options to limit the quantity or avoid consumptive use of water. PPL has submitted studies that investigate using dry cooling techniques as an alternative to natural draft cooling towers. Utilizing dry cooling technology at BBNPP would significantly reduce the consumptive use; however, this technology has not been utilized for nuclear power plants to date and most likely the cost would be prohibitive. Nonetheless, SRBC staff has outstanding comments pertaining to this issue that have not been resolved at this time. (0004-2 [Richenderfer, James])

Response: *Impacts from alternative heat-dissipation systems will be considered in Section 9.4 of the EIS and will include impacts from dry cooling alternatives in addition to the selected heat-dissipation system. (BBNP-COL1-SS0020R)*

2.13 Comments Concerning Benefit-Cost Balance

Comment: The new security requirements for such plants increase the operating costs to levels that will not be sustainable in an energy market that will include an increasing per cent of renewable resources. (0003-4 [Martin, David])

Response: *Neither the NRC nor the USACE has the authority under its regulations to ensure that the proposed plant is the least costly alternative to provide energy services under any particular set of assumptions concerning future circumstances. This authority and responsibility is most often the role of the State regulatory authorities, such as public service commissions or the competitive marketplace. The cost and benefits of construction and operation of the proposed BBNPP will be addressed in Chapter 10 of the EIS. (BBNP-COL1-SS0003R)*

2.15 General Comments in Opposition to the Licensing Action

Comment: I am writing to oppose approval of a third reactor for PPL's Susquehanna location in Berwick, PA. (0003-1 [Martin, David])

Comment: Is the NRC and the EPA willing to sacrifice their principles for a group of executives, who by their very actions, subconsciously communicate how they really feel about the people, the children and the community? Given that the site plans we have, they appear to have been designed by amateurs, who are out of touch with reality, who failed to incorporate the human factors of the environment. (0010-15 [DeRonde, Barbara and Robert])

Comment: The needs of the people, who have owned these lands, and homes, far longer than PPL did have been totally ignored. This site plan was developed by someone or a team of people who live in a vacuum, who put the needs of themselves first. This design is an example of a selfish designer, who is concerned more about saving money than saving lives. (0010-17 [DeRonde, Barbara and Robert])

Comment: It is the hubris of this narcissistic company and its representatives who distort the truth that we find most disturbing. Any publicly traded corporation that is run by a wise and mature C.E.O. would not have let this layout occur. The immature, narcissist hubris reflected in the Bell Bend site plan relates to a piece of information about a recent hostile takeover of another utility made by PPL in the country of Wales. Near the city of Cardiff is a reservoir and nature preserve that has been designated by the country as having scenic and scientific significance. Being a beautiful place, PPL acquired this land in the takeover. The country is now upset and up in arms; PPL announced that it will be constructing 300 new homes in this nature preserve - anything for money. Some individuals have speculated that PPL's real motive is to use the water for a nuclear plant. Nothing appears to be sacred when PPL gets its hands on it. So much for being a good neighbor, who takes the time to understand the nature, culture, and values of the people. (0010-2 [DeRonde, Barbara and Robert])

Comment: In summary, we are asking that PPL not be granted another license to construct or operate another nuclear power plant anywhere on or near Confers Lane, or anywhere near Beach Haven, Salem Township, PA. (0010-23 [DeRonde, Barbara and Robert])

Comment: The fact that PPL's revised layout may save PPL some money in not having to run more transmission lines is not our problem; it is their cost of doing business. There is a wise adage: Haste makes waste. The fact that PPL may have already installed additional transmission lines in anticipation of having their site plan approved is presumptive on PPL's part. (0010-7 [DeRonde, Barbara and Robert])

Response: *These comments provide general information in opposition to the licensing action. They do not provide any specific information related to the environmental effects of the proposed action and will not be evaluated in the EIS. (BBNP-COL1-SS0007R)*

2.16 Comments Concerning Issues Outside Scope – Miscellaneous

Comment: Should you go ahead with this license, PPL must pay for all of the needed services to sample, test, monitor, and write reports for us daily for three or more years, or whatever it takes to protect our lake, our wells, our air, fish, trees, and soil. PPL must pay for all the test

and services our independent consultants determine we need. (0010-22 [DeRonde, Barbara and Robert])

Response: *The need or requirement for PPL to sample, test, monitor, and write reports to the public for 3 or more years is outside the scope of this review. The applicant submits a Radiological Environmental Monitoring Report to the NRC yearly, along with other monitoring reports to State agencies. The comment does not provide any information relevant to the environmental impacts of the proposed BBNPP and will not be evaluated further. (BBNP-COL1-SS0023R)*

2.17 Comments Concerning Issues Outside Scope – NRC Oversight

Comment: The public are not idiots; do not treat as though we are. If the NRC does not have such manual yet, the Bell Bend project should be shelved until one is crafted with the assistance of the country's best minds in the field of nuclear and environmental medicine, environment toxicology, physiopathology, including nuclear engineering. (0010-11 [DeRonde, Barbara and Robert])

Comment: Concerning, NRC requirements for nuclear plant setbacks from the property line of adjacent property owners, the NRC's response was late in forthcoming to us; it took almost six months from the time we asked; this is unacceptable, as it prevents the citizen from being able to make comments in a timely manner. (0010-9 [DeRonde, Barbara and Robert])

Response: *The issues raised in the comments are outside the scope of the environmental review and will not be evaluated further. (BBNP-COL1-SS0019R)*

2.18 Comments Concerning Issues Outside Scope – Safety

Comment: As a former OSHA inspector, I have evaluated the industrial safety program at the facility and am familiar with the condition of the existing plant and its complexity. The technology is far too complicated to safely produce power over an extended period. Further, the two or (at times) three resident NRC inspectors do not have the resources to thoroughly evaluate the nuclear safety program and insure its safe operation. (0003-3 [Martin, David])

Comment: we are most horrified by the location PPL has selected for its Bell Bend plant, especially its nuclear reactor. Though we do not live in PA, we feel extremely sorry for the poor souls who do, if this site plan is approved.

First, the Bell Bend nuclear reactor will be located approximately 1800 linear feet from our northern property line and slightly further away from one of our other neighbors on Confers Lane. Whose insane concept is this? As a licensed NYS Architect in private practice for 36 years, it is beyond my and my colleagues comprehension how anyone in their right mind could have derived a site plan, such as the one Ms. Amy Elliot of the U.S. A.C.E. provided us; this design reflects the mentality of some amateur, someone who just came out of college, who lives in cocoon or vacuum, who is out of touch with the real world.

Given all of the land that PPL acquired recently in Salem Township, it is readily apparent that PPL and their design team are not competent design engineers in terms of site plans, nor ethical ones, for no decent designer having any sense of moral character would ignore the impact and risk nuclear technology poses for human beings and animals. To shove a nuclear

next to a populated area illustrates someone who is out of touch with events in the history of nuclear accidents and contamination of water supplies and children. (0010-1 [DeRonde, Barbara and Robert])

Comment: Setback requirements are so basic and so important that almost every town and village have them in the United States. Given its importance, the required setback requirement in actual distances should be at the finger tips of every Project Manager within minutes. The NRC stays on top of what is happening in the world of nuclear energy, yet it is so behind on having something so basic to protecting children and the public. It is imperative for NRC to have such an official book of regulations. The public cannot trust the licensees to make a sound and safe determination; the health implications of the public are too great. Nuclear accident history is replete with accidents. If such a task were to be left up the licensee, this would be analogues to me letting my teenage nephew drive my Mercedes any time he wanted and return it any time it pleased him. (0010-10 [DeRonde, Barbara and Robert])

Comment: It appears to us that perhaps the NRC needs to pay attention not only to the licensees, but to the public as well. Nuclear reactors are not gym set or garden sheds; the sleeping giant in reactors can kill. If the NRC does not have book on setback requirements for reactors soon, we recommend that the NRC shelve the Bell Bend project until one is developed. The risks are too high. Such documents are basic to any planning or architecture department; we cannot believe that the engineering firm PPL employed for their site design had never heard of this requirement. We do not believe the document Ms. Laura Quinn-Willingham sent us; it looks too much like something she had written. Setbacks requirements are even found in the national building code. In speaking about what my wife had received from Laura Quinn-Willingham - that the NRC allows the licensee to determine what the setback requirements will be, my wife shared this information with an acquaintance who is a cancer researcher and who works for Pfizer Pharmaceutical. On learning about this absence of regulation, our friend's response was "Tell the young lady to go back and do her homework! If this is all that the NRC can say about setback requirements, the public is like a sitting goose waiting to be cooked to death." (0010-14 [DeRonde, Barbara and Robert])

Comment: As a Licensed Architect for 36 years, I am horrified to think that any decent engineering firm would locate a nuclear reactor so close to a residential area, particularly, when the world has witnessed such horrible disasters over the past 50 years. (0010-19 [DeRonde, Barbara and Robert])

Response: *The issues raised in these comments are safety issues and, as such, are outside the scope of the environmental review and will not be addressed in the EIS. A safety assessment for the proposed licensing action was provided as part of the application. The NRC is developing a Safety Evaluation Report that will analyze all aspects of reactor and operational safety for the proposed BBNPP. (BBNP-COL1-SS0011R)*

Comment: The Susquehanna Electric steam Station Unit 1 was placed on the Degraded Cornerstone Matrix by the Nuclear Regulatory Commission in 2011 and this lowest ranked nuclear unit in Region I. Please refer to Enclosure 1 for a complete description of PPL's declining performance. [Enclosure 1 can be found at ML1220A220.] (0009-6 [Epstein, Eric])

Comment: PPL appears to have difficulty being able to operate safely and satisfactorily its two existing reactors at their Susquehanna nuclear plant. PPL's poor performance should not be rewarded with another opportunity to jeopardize the health and safety of the people and

environment of Northeastern Pennsylvania, its rivers, streams, soil, and the Treasury of the people of the United States. he lives of the people of Salem Township, Luzerne County, the Susquehanna River and the Chesapeake Bay (a major food source for the East Coast) have been exploited and poisoned long enough. (0010-24 [DeRonde, Barbara and Robert])

Response: *The operational safety of the Susquehanna Electric Steam Station is a safety issue and, as such, is outside the scope of the environmental review. The NRC has an active operational monitoring and resident inspection program. The comments do not provide information related to the environmental review for the proposed action and will not be evaluated in the EIS. (BBNP-COL1-SS0012R)*