



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

MAR 22 2012

Ms. Beth Bachur
Acting Chief, Baltimore District
U.S. Army Corps of Engineers
PO BOX 1715
Baltimore MD 21203-1715

Re: Public Notice NAB-2008-01401-P13 Bell Bend Nuclear Power Plant

Dear Ms. Bachur:

The U.S. Environmental Protection Agency (EPA) has reviewed the public notice (PN) for Pennsylvania Power and Light Bell Bend LLC (PPL or applicant), Bell Bend Nuclear Power Plant (BBNPP), located in Salem Township, Luzerne County, Pennsylvania. EPA's review and comments, provided herein, are based upon the Public Notice issued January 23, 2012, the joint permit application (JPA) prepared for this project, and technical comments provided by the Susquehanna River Basin Commission (SRBC).

EPA's review is intended to ensure that the proposed project meets the requirements of Section 404 of the Clean Water Act (CWA). The CWA Section 404(b)(1) Guidelines (40 C.F.R. Part 230) (Guidelines) provide the substantive environmental criteria against which this application must be evaluated. Fundamental to the Guidelines is the premise that no discharge of dredged or fill material may be permitted if: (1) it causes or contributes, after consideration of disposal, site dilution and dispersion, to violations of any applicable state water quality standard; (2) a practicable alternative to the proposed discharge exists that would have a less adverse impact on the aquatic environment; or (3) the discharge would cause or contribute to significant degradation of the waters of the United States. See 40 C.F.R. § 230.10.

The proposed project is undergoing review by many different agencies responsible for issuing authorizations for the construction of the BBNPP, including the Nuclear Regulatory Commission (NRC), the SRBC, the Pennsylvania Department of Environmental Protection (PADEP), and the U.S. Army Corps of Engineers (Corps). There remains outstanding and necessary document submittals and studies, including studies related to the proposed water withdrawals and water storage facilities that have not yet been completed. An Environmental Impact Statement (EIS) is being developed in accordance with NRC's compliance with the National Environmental Policy Act (NEPA). It would appear that significant data that would inform the Corps' Section 404(b)(1) Guidelines analysis is absent from the record at this time.

The purpose of the project as described in the Public Notice is to provide 1,600 megawatts of additional nuclear baseload electrical power to the northeast portion of the Pennsylvania, New Jersey and Maryland Regional Transmission Organizational grid. PPL proposes to construct a new nuclear power plant at a site adjacent to the existing Susquehanna



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Steam Electric Station. The project site boundary consists of approximately 2,055 acres, of which 687 would be altered to support construction and operation of the facility. Waterways on the site include the North Branch Susquehanna River, Lake Took-a-While, unnamed tributary to Lake Took-a-While, North Branch Canal, Walker Run and Eastern tributary to Walker Run plus associated wetland systems.

These aquatic resources are all tributaries to the Susquehanna River. Approximately fifty percent (50%) of the freshwater flow to the Chesapeake Bay (the Bay) originates from the Susquehanna River. The river was designated in 1997 as an American Heritage River. The Chesapeake Bay is North America's largest estuary and the third largest estuary in the world. Its watershed is home to approximately 17 million people and contributes significantly to the surrounding local and states economies; the Chesapeake Bay Foundation reported that the Bay is valued at over \$1 trillion. In 2009, President Obama signed Executive Order 13508 recognizing the Chesapeake Bay as a national treasure and called on the federal agencies to work to protect and restore the Chesapeake Bay watershed. American Rivers identified the Susquehanna River as No. 1 on its list of America's Most Endangered Rivers for 2011.

According to the applicant, construction of the BBNPP facility would result in approximately 13.14 acres of impacts to jurisdictional wetlands and approximately 1.25 acres of impacts to jurisdictional rivers and streams. Additionally, water intake from the North Branch Susquehanna River would be necessary for plant operation and safety purposes. It is estimated that the BBNPP circulating water system and the raw water supply would withdraw 37 million gallons of water a day (MGD) on average from the North Branch Susquehanna River. PPL has made applications to the SRBC to withdraw up to 42 MGD from the North Branch of the Susquehanna River, and a withdrawal of 1 MGD from groundwater resources in the area. The proposed surface water withdraw represents approximately 5 percent of the 7Q10 of the river. The potential effects of this water withdrawal are still being studied and are yet to be determined. These effects could include impacts on water use and water quality, effects on aquatic communities and their habitat, and effects to duration and flow of perennial and intermittent streams. In addition, consideration of effects to the aquatic ecosystem as a result of other reasonably foreseeable future water withdrawal should be made.

EPA appreciates the applicant's significant efforts undertaken to date to avoid direct impacts to aquatic resources on-site. During the initial planning process and early engagement with the resources agencies, including EPA, the site designs included potential impacts to wetlands and streams totaling over 100 acres. Currently, the applicant is seeking approval to impact 13.14 acres of wetlands and 1.25 acres of river and stream. Continued evaluation should be made of design alternatives that may be available to minimize any identified adverse effects to the local aquatic resources and to the downstream receiving systems, including the Bay. Of the 13.14 acres of impacts to wetlands 2.96 acres of impacts are to be temporary, 1.25 acres of impacts are permanent and 8.93 acres are permanent conversion from forested wetlands to emergent or shrub scrub wetlands. The proposed mitigation includes enhancing 6.80 acres of wetlands, creating 8.23 acres of wetlands, enhancing 853 linear feet of stream channel and the re-establishment of 1,360 linear feet of stream channel. To ensure that adequate compensation is achieved, a thorough assessment of the current condition of the resources proposed to be impacted should be made using appropriate and acceptable assessment methods to identify the



functional replacement needs of the streams and wetlands on-site. Any approved mitigation plan should include observable and measureable success criteria to which the success of the mitigation projects can be measured, along with an adaptive management plan to adjust any problems that arise post mitigation construction.

The Public Notice states that “the impacts caused by the consumptive use of the North Branch of the Susquehanna River are regulated by the SRBC. Any approval by the SRBC as well as Water Quality Certification, by the PADEP, will address the affects of this impact including water quantity and stream flow, water quality, aquatic habitat and provisions for low flow conditions and consumptive use mitigation.” EPA agrees that SRBC is the primary regulator for water withdrawals (including groundwater withdrawals) within the Susquehanna River Basin. Nevertheless, the Section 404(b)(1) Guidelines direct the Corps to consider these impacts. See 40 C.F.R. § 230.11(h). Moreover, EPA understands that numerous studies necessary for the SRBC application have not yet been completed, including a 2-D analysis of the Instream Flow Incremental Methodology, a mussel study to be conducted in 2012, and temperature and dissolved oxygen studies for water quality in the backwater areas. EPA is providing technical comments on several studies that have been provided in the JPA for review and are included in the enclosure to this letter. In addition, technical comments provided by SRBC regarding the aquatic and water quality assessments and studies reports included in the JPA remain outstanding. Many of these studies would seem likely to provide the type of information that would assist the Corps in its public interest review and its review of the project pursuant to the Section 404(b)(1) Guidelines.

As stated above, it is our understanding that while SRBC’s review of the project is underway, the applicant has not yet completed the application process, including the completion of additional aquatic studies and outstanding technical comments that must be addressed. Since the SRBC has not yet made a determination regarding the necessary approvals for the project, it is unknown at this time whether such approvals would be granted and, if so, what conditions the SRBC might consider and/or impose. Any conditions imposed by the SRBC could alter the Corps’ Section 404(b)(1) Guidelines determination. For example, the applicant has not yet formally requested the SRBC to approve its pooled asset approach to meeting its consumptive use mitigation requirements. This approach is anticipated to require significant water storage capacity that may not yet have been fully identified. While SRBC has indicated that appropriate mitigation for water consumption of the magnitude and at the location associated with this project will require compensatory water or discontinuance under certain conditions, no final decision has been made. Accordingly, it is unknown at this time whether the applicant will be required to provide compensatory water and, if so, whether construction of additional facilities and further encroachment on jurisdictional waters may be required. In addition, SRBC continues to review the groundwater withdrawal application and has noted a potential concern for impacts to wetlands that would not be impacted by direct fill (i.e., loss of hydrology).

The Public Notice states that a second PN will be issued upon the completion of the draft Environmental Impact Statement (EIS). The EIS is being prepared by NRC in their compliance with NEPA. As the studies undertaken for the EIS are not yet complete, including assessment of direct, indirect and cumulative impacts to aquatic and terrestrial resources, air quality, cultural and historic resources, and communities, EPA believes this PN (NAB-2008-01401-P13) is



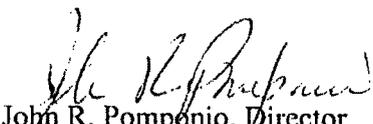
premature. Significant information regarding the impacts of this proposed project and other project alternatives are still being developed. It is the goal of an EIS, among other things, to consider a range of alternatives which could meet the needs identified, in the case of the project, for the energy needs of a defined area. In this instance, issuance of a Section 404 PN proposing a specific project for comment at this time gives the appearance of premature decision-making and diminishes the benefit that the detailed analysis of alternatives and impacts provides to selection of a preferred alternative. Additionally, there is the appearance that consideration of alternatives in the NEPA process would not be genuine. Though EPA understands that there may be obligations to the NRC process which prompt the timing of the application and the Corps' determination that it has a complete application for purposes of publishing the PN, EPA believes that EIS data collection and analysis has not been used to fully inform the alternative selection. It is our hope and expectation that after completion of the EIS studies, changes will be made to the selected alternative if analyses identify additional options to avoid and minimize impacts. This could include changes to location, timing or design of a preferred alternative, or selection of a no action alternative.

The additional information that has not yet been provided should be considered in making a determination under the Section 404(b)(1) Guidelines. Given the importance of the aquatic resources at stake, the complexity of the project, the magnitude of potential impacts, and the type of information that remains outstanding, EPA is concerned that the Bell Bend project, as proposed and in the absence of additional information, may result in substantial and unacceptable impacts to aquatic resources of national importance as covered in Part IV, paragraph 3(a), of the 1992 CWA Section 404(q) Memorandum of Agreement (MOA) between EPA and the Department of the Army. While EPA appreciates the applicant's efforts to work with the regulatory agencies and their significant efforts to avoid impacts to on-site aquatic resources, we believe it is premature to consider the potential direct and secondary impacts until all necessary studies and information gathering, including but not limited to the NEPA analysis has been completed.

EPA is committed to continuing to work with you and the applicant to assure that the proposed impacts resulting from this project are the least environmentally damaging practicable alternative, consistent with the CWA Section 404(b)(1) Guidelines and that significant degradation to the North Branch of the Susquehanna River is prevented. Our project-specific comments and questions are enclosed.

Thank you for the opportunity to review and provide comment on the Public Notice for the Bell Bend Nuclear Power Plant. If you have questions, please do not hesitate to contact Mrs. Jamie Davis, the staff contact for this project, at davis.jamie@epa.gov or at 570-842-1044.

Sincerely,


John R. Pomponio, Director
Environmental Assessment & Innovation Division

Enclosure



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Enclosure
Detailed EPA Technical Comments- Bell Bend Nuclear Power Plant

EPA has reviewed the below listed Supplemental Environmental Reports provided in the JPA and are providing the following technical comments.

Section 1. A Field Survey of Fish and Aquatic Macroinvertebrates at the Proposed Bell Bend Nuclear Power Plant Site, Luzerne County, PA; Normaneau Associates, Inc., November 2010.
Section 4. Impingement and Entrainment Sampling for the Proposed Bell Bend Nuclear Power plant at the SSES Circulating Water Supply System Intake Structure, Luzerne County, PA; Normaneau Associates, Inc., June 2010.
Section 5. Mussel Survey in the Susquehanna River in the Vicinity of the Proposed Bell Bend Nuclear Power Plant Site, Luzerne County, PA; Normaneau Associates, Inc., July 2010.
Section 7. Potential Effects of the Bell Bend Project on Aquatic Resources and Downstream Uses, Proposed Bell Bend Nuclear Power Plant Site, Luzerne County, PA; Normaneau Associates, Inc., June 2011.

Section 1. - The objective of this section of the report was to provide a field survey of fish and aquatic macroinvertebrates at the proposed Bell Bend Nuclear Power Plant site.

- As stated in the report, ‘the biological sampling effort focused on water bodies that occurred in the potential areas of disturbance, although a selection of water bodies outside of this area were sampled to account for potential downstream impacts.’ EPA is concerned that the North Branch of the Susquehanna River, the primary receiving stream, was not assessed for potential downstream impacts. Please provide the rationale why this river resource was not assessed.
- Please provide clarification and rationale on the selection of the sampling methods used during the assessment.
- Additional details and rationale needs to be provided regarding the sampling of the ponds.
- Please describe the methods used during the electrofishing surveys that have been completed. Were they conducted during daylight or night-time? The PADEP and others recommend a minimum of a 100 m reach for fish surveys. None of the sample reaches assessed for this study were 100 m in length. Please provide a rationale for the reach lengths selected for this study.
- Please provide clarification regarding the stream assessments and sampling methods used for both the streams and the ponds. Were the methods followed using either the Susquehanna River Basin Commission or the PADEP protocols used for these surveys? If these protocols were not used, please describe how the method used compares with SRBC and PADEP methods and why the method was utilized for sampling and assessment.

Section 4.

- Please provide clarification as to whether the current and proposed plants are a closed cycle facility.



- The entrainment samples were collected during one of the two diurnal periods. This is a reasonable approach; however, because different fish species will swim-up at different times, it would have been better to randomly alternate the sampling times between the daylight and night time diurnal periods. It would have also been beneficial if the study provided documentation for the entrainment values for the months of February/March and September to confirm that no spawning activity occurred during these months.
- It would have benefited the study if transect sampling of the river reach would have occurred to document what was actually available (eggs & larvae) in the river reach that by-passed the facility intake. The study could have calculated a percent entrainment score from this information.
- Please clarify whether the 2008 and 2009 entrainment results are a normal expectation for entrainment studies and how this was established.
- Please identify if there any concerns with no eggs collected during the 2008 surveys and only one egg collected during the entire 5 week sampling period in 2009.
- Generally the fish community of this river reach is known, were all of the expected fish collected during the impingement surveys that were expected?

Section 5.

- The qualitative mussel survey completed five years ago in 2007 did not collect the green floater, *Lasmigona subviridis* in the sampling effort; however, a single specimen was collected in the area of the proposed Bell Bend Nuclear Power Plant site during the supplemental benthic macroinvertebrate sampling survey. This species is classified as imperiled throughout much of its historic range and is considered imperiled by the Pennsylvania Natural Heritage Program plus the USFWS will be reviewing the species for candidate listing under the Endangered Species Act, we recommend that quantitative freshwater mollusk surveys using appropriate methods be completed on the Susquehanna River reach within the associated impact area of the proposed facility.

Section 7.

- Technical review comments from the Pennsylvania Fish & Boat Commission, Pennsylvania Department of Environmental Protection and the Susquehanna River Basin Commission should be addressed.
- In addition, the section should review and address the recommendations of the Susquehanna River Ecosystem Flows Study as related to the proposed facility and its effects on the Susquehanna River ecosystem. Details of the study can be found at <http://www.nature.org/media/pa/tnc-final-susquehanna-river-ecosystem-flows-study-report.pdf>.
- The study should address the fish health issues currently occurring within the Susquehanna River watershed, how the proposed facility may or may not affect these populations, and whether mitigative efforts could be undertaken to minimize these effects.

