

R. R. Sgarro  
Manager, Nuclear Regulatory Affairs

PPL Bell Bend, LLC  
38 Bomboy Lane, Suite 2  
Berwick, PA 18603  
Tel. 570.802.8102 FAX 570.802.8119  
[rrsgarro@pplweb.com](mailto:rrsgarro@pplweb.com)



November 30, 2010

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**BELL BEND NUCLEAR POWER PLANT  
REVISED RESPONSE TO  
ENVIRONMENTAL REQUEST FOR  
ADDITIONAL INFORMATION AE 5.3-1  
AND SCHEDULE INFORMATION  
BNP-2010-305          Docket No. 52-039**

- References:
- 1) S. Imboden (NRC) to R. Sgarro (PPL Bell Bend, LLC), Requests for Additional Information Related to the Environmental Review for the Combined License Application for Bell Bend Nuclear Power Plant, dated July 10, 2009
  - 2) R. Sgarro (PPL Bell Bend, LLC) to Document Control Desk (NRC), Response to Environmental Requests for Additional Information, Second Submittal, dated August 10, 2009

The purpose of this letter is to respond to Request for Additional Information (RAI) AE 5.3-1 identified in the Reference 1. This RAI addresses Aquatic Ecology, as discussed in Section 5.3 of the Environmental Report (ER), as submitted in Part 3 of the Bell Bend Nuclear Power Plant Combined License Application (COLA). This is a revised response and supersedes the response to RAI AE 5.3-1 provided in Reference 2.

In addition, this letter provides an updated submittal schedule for additional RAI Questions included in Reference 1, as follows:

- January 14, 2011 – TE 2.4-6, TE 2.4-7, and STO 2.1-1
- February 18, 2011 – LU 4.1-1, LU 5.1-1, and LU 5.1-2

Should you have questions or need additional information, please contact the undersigned at 570.802.8102.

*I declare under penalty of perjury that the foregoing is true and correct.*

Executed on November 30, 2010

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: Revised Response to Environmental Request for Additional Information AE 5.3-1  
Bell Bend Nuclear Power Plant

D102  
NRO

cc: w/o Enclosure

Mr. Michael Canova  
Project Manager  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Mr. William Dean  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region I  
475 Allendale Road  
King of Prussia, PA 19406-1415

Ms. Stacey Imboden  
Senior Project Manager  
U.S. Nuclear Regulatory Commission  
11545 Rockville Pike  
Rockville, MD 20852

Dr. Donald Palmrose  
Senior Project Manager  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Enclosure

Revised Response to Environmental Request for Additional Information AE 5.3-1  
Bell Bend Nuclear Power Plant

**RAI AE 5.3-1****ESRP 5.3.1.2**

**Summary:** Describe the frequency of the proposed maintenance dredging of the intake area, the method to be used, the potential use of cofferdams, and the disposal of the dredged material. Indicate whether maintenance dredging will be included in the construction permit obtained from the U.S. Army Corps of Engineers (USACE).

**Full Text (Supporting Information):** ER Rev 1, p. 5-18 states that maintenance dredging of the intake area may be necessary. Please elaborate.

**Response:**

The river bed in front of the circulating water system (CWS) makeup water intake varies from Elevation 490 feet to 474 feet at the deepest part of the river as shown in BBNPP ER Figure 2.3-11. The approach channel to the intake is dredged to an elevation of 473 feet or slightly lower. This channel would extend approximately 125 feet to 200 feet into the river from the riverbank. It is possible that this area in front of the intake may have some sediment accumulation following high flows in the river. Based on the river bed contours it appears that the deeper section of the river is closer to the intake. This indicates that the possibility of sedimentation near the intake may be minimal since this area is naturally kept free of excessive sediment by the prevailing river current. Additionally, the design of the intake structure is such that the face of the intake is parallel to river flow, which will aid in limiting the accumulation of debris and sediment in the area around the intake structure. The current frequency of dredging at the SSES intake area is based upon suspected build-up of sediments in front of the intake. Maintenance dredging at the SSES intake takes place at approximately 5 to 10-year intervals. Thus, anticipated dredging at the BBNPP intake would be approximately once every 5-10 years.

Dredging will probably be performed with a barge mounted dredge using hydraulic dredges or with dredging equipment located on the river bank, with the material being disposed of in the sedimentation pond that was constructed for the initial construction of the intake structure. The material removed from the river during the dredging operation would most likely be granular material that could be reused as relatively clean fill after drying and removal from the sedimentation pond. This material will not be placed in wetlands or other important habitat. Disposal of dredged materials will comply with PADEP requirements for proper disposal of debris and excavated materials. Cofferdams are not anticipated to be used for the maintenance dredging operation based on current plant operating experience. Use of cofferdams during construction is discussed in BBNPP ER Section 4.3.2.

Maintenance dredging will be included in the construction permit obtained from the U. S. Army Corps of Engineers and PADEP.

**Maintenance Dredging**

Maintenance dredging in the Susquehanna River is proposed to be performed throughout the same dredge envelope and to the same depth as completed as part of initial construction. It is projected that this activity would be required every five to ten years, depending on Susquehanna River flow rates. Approximately 250 to 1,000 cubic yards of sediment is expected to be removed from the dredge envelope using mechanical dredge equipment and best management practices (BMPs) protective of the environment, such as bottom weighted floating

siltation curtains. While proposed to be employed during initial dredging and Cooling Water Intake System (CWIS) installation, use of cofferdams is not proposed for the less extensive work associated with maintenance dredging.

Accumulated sediment (wet silt and debris) will be trucked into the BBNPP facility and stockpiled in an appropriate upland location. Dewatering and material handling will be completed within a temporary contained onshore area, and any dewatering fluid settled prior to return to the Susquehanna River. It is PPL practice to use this sediment as fill material on an as-needed basis, and this practice is proposed to be continued at BBNPP.

#### Diffuser Maintenance

The BBNPP Blowdown Diffuser will be constructed with a flap gate on its end to allow access by divers. Approximately every 1 to 2 years, divers will access the diffuser end through the flap gate and remove accumulated material (silt and stones). Approximately 10 to 30 cubic yards of material is expected to be removed from the diffuser every 1-2 years. This material is proposed to be discharged to the Susquehanna River.

PPL will request that the USACE and PADEP include maintenance dredging and diffuser maintenance in BBNPP project permits.

#### **COLA Impact:**

No changes to the BBNPP COLA ER are required as a result of this RAI response.