

## **Appendix A - Item 29**

PPL Bell Bend Nuclear Power Plant  
Salem Township, Luzerne County, PA

### ***ACOE Information Requirement:***

"Identify future maintenance needs including siltation potential (for sloughing/settling), future continuous maintenance dredging, and the rate of sediment deposition based on increased boat wakes, shoreline development, etc."

### ***Applicant Response:***

The BBNPP Intake Structure adjacent to and within the Susquehanna River and its subsidiary components will require regular maintenance actions to ensure safe and efficient mechanical performance over the lifespan of the BBNPP facility. This section of the JPA application provides a description of those actions which are likely subject to the jurisdiction of the ACOE and PADEP since they occur within or adjacent to the Susquehanna River.

The primary components of the BBNPP Intake Structure are the intake bay itself, which is to be constructed within the existing west bank of the Susquehanna River, a blowdown diffuser line constructed on the riverbed and extending downstream (south) of the intake bay, and the dredge envelope within the river (plan sheet CS 3116 in Section F of the JPA). Generally speaking, the BBNPP Intake Structure is physically similar to the existing SSES Intake Structure and maintenance needs are anticipated to be effectively the same.

### **Intake Bay Cleaning**

The BBNPP Intake Structure will be constructed with a three bay arrangement, with each bay being approximately 30 feet wide. It is expected that all three bays will be cleaned (de-mucked) every two to three years. The intake bays for BBNPP are contiguous to the river and will not be dewatered prior to cleaning, however the intake bays will be closed off from the river to the extent practical to prevent the discharge of sediment-laden water to the river.

Accumulated sediment (wet silt and debris) will be trucked to the BBNPP facility and stockpiled in an appropriate upland location. It is PPL's practice at Susquehanna SES to use this sediment as fill material on an as-needed-basis, and this practice is proposed to be continued at

BBNPP. It is expected that this practice would produce approximately 50 cubic yards of mud and debris (or less) during each cleaning event.

#### Maintenance Dredging

Maintenance dredging in the Susquehanna River is proposed to be performed throughout the same dredge envelope and to the same depth (including overdredge) as proposed 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) identical to those proposed to be used during initial dredging (described in Appendix A, Item 21). The dredged material is proposed to be used as clean fill at BBNPP, and handled in the same manner as described for the material removed from the intake bay. PPL requests that the ACOE and PADEP include maintenance dredging in BBNPP project permits.

#### Diffuser Maintenance

The BBNPP Blowdown Diffuser will be constructed with a flap gate on its end to allow access by divers. Every 1 to 2 years, divers will access the diffuser pipe through the flap gate and loosen accumulated material (silt and stones), which will be allowed to be flushed from the diffuser and from the riverbed area immediately adjacent to the flap gate. Approximately 10 to 30 cubic yards of silt, stones and other riverbed material is expected to be flushed into the Susquehanna River.