

# Susquehanna River Basin Commission

*a water management agency serving the Susquehanna River Watershed*



June 27, 2012

Mr. Michael J. Caverly  
VP-Financial Nuclear Development  
PPL Bell Bend, LLC  
Two North Ninth Street  
Allentown, PA 18101

Re: Holtwood Hydroelectric Station;  
Letter from Dennis Murphy to Andrew D. Dehoff, dated March 9, 2012;  
Application to Provide Consumptive Water Use Mitigation

Dear Mr. Caverly:

Susquehanna River Basin Commission (SRBC) staff has reviewed the application for the Holtwood Hydroelectric Station to provide consumptive water use mitigation, and Attachment 2 of the Dennis Murphy letter referenced above (Attachment 2) that modifies the OASIS model to evaluate sources of mitigation for PPL consumptive water use in the Susquehanna River Basin.

Attachment 2 provides for two additional mitigation water sources including 2 million gallons per day (mgd) from Rushton Mine, for which an application has been submitted to the SRBC and is currently under review, and 5 mgd from an unidentified source in the West Branch Susquehanna subbasin. Additionally, 28 mgd of consumptive use for the Bell Bend Nuclear Power Plant (BBNPP) was added to PPL consumptive use mitigation requirements.

SRBC is currently reviewing both surface water and consumptive use applications for BBNPP. Based on our review of PPL's consumptive use mitigation needs, SRBC staff has determined that it cannot recommend approval of operations at Holtwood, as proposed, to meet the mitigation requirement at BBNPP. Holtwood's downstream location would leave approximately 120 river miles unmitigated during designated low flow periods. This does not preclude using operations at Holtwood as potential mitigation for other, more appropriate PPL assets.

SRBC Regulation 18 CFR §806.22(c) provides the SRBC with the sole discretion to determine the acceptable manner of mitigation to be provided by project sponsors. Staff would recommend a negative determination for this mitigation option because it fails to address potential significant, localized adverse impacts associated with operation of BBNPP.

As part of its consumptive water use application for BBNPP, PPL must propose (and the SRBC commissioners must approve) mitigation for its requested consumptive water use of 28 mgd. As you are aware, staff has determined that mitigation for a proposed consumptive use by a new facility of this magnitude and at this location must be in the form of flow augmentation or discontinuance of use during designated low flow periods rather than payment of the mitigation fee, so as to ensure no net reduction of flow in the river during such low flow periods.

Given that discontinuance is not viable, either from an economic or societal standpoint, staff believes flow augmentation is the appropriate mitigation option. It is the responsibility of PPL to demonstrate that a mitigation source or combination of mitigation sources meets the objective of minimizing significant adverse impacts to river flows during designated low flow periods. The most effective demonstration that adverse impacts are mitigated is to have the mitigation source(s) located upstream from BBNPP.

From the Corporate Stored Asset Plan (CSAP) approach, mitigation water located upstream of BBNPP that is designated for a specific consumptive use downstream of the confluence of the West Branch and North Branch Susquehanna River could be used for mitigation at BBNPP if: (1) PPL makes the necessary arrangements with the owner of the designated consumptive use mitigation source; (2) the proper quantity of mitigation water is available; (3) the appropriate trigger is established for release of that water for BBNPP mitigation; and (4) the quantity of mitigation water in play is replaced by another source upstream of the designated consumptive use. PPL must provide replacement consumptive use mitigation from the West Branch or some other source that is upstream of the specifically designated consumptive use in order to assure appropriate consumptive use mitigation is restored. This is consistent with our previous correspondence to you on February 16, 2012, outlining requirements for consumptive use mitigation for BBNPP.

SRBC has reviewed Attachment 2 and its description of the application of the OASIS model by PPL for consumptive use mitigation operations at the Holtwood Hydroelectric Station. Our comments are listed below:

1. Whitney Point and Cowanesque releases were excluded by PPL from the “base flow” scenario. By adding the flows back in subsequent scenarios, PPL is claiming credit for those flows which were previously designated for uses other than PPL consumptive assets. The invalid base flow scenario brings into question all subsequent analyses. These operations occur regardless of BBNPP operations, and must be included in the baseline run.
2. The model assumes that Safe Harbor will be operated as “run of river.” Safe Harbor is not operated as a run of river unit during low flows. It is operated as a peaking unit. The concern is that, with no minimum releases at Safe Harbor and the large storage capacity at Safe Harbor, the inflows to Holtwood will not be sufficient to maintain the proposed operating regime. For this assumption to be valid, an agreement with Safe Harbor to operate as a run of river facility is required, or the model assessment must demonstrate that the Holtwood facility can sustain a release

absent Safe Harbor releases. If relying on leakage from Safe Harbor, PPL should attempt to validate the suggestion by SRBC staff that approximately 500 cubic feet per second (cfs) routinely leaks from Safe Harbor.

3. PPL has used Whitney Point and the Barnes and Tucker releases in the model as sources for mitigation for PPL assets. This is not a valid assumption because those releases are designated for other consumptive uses, many of which are located upstream of BBNPP, and occur regardless of BBNPP operations. As such, no new augmentation occurs to mitigate the new consumptive losses that would result from BBNPP operations.
4. Trigger flows in the model are based on flows at Harrisburg. This may be inappropriate for PPL consumptive use upstream of Harrisburg. The triggers for existing consumptive use have already been established and should be used in the OASIS model.
5. One of the key results of the February 2012 OASIS runs is that BBNPP consumptive use is offset by the combined flows associated with releases from Cowanesque for the Montour Steam Electric Station (SES) and Three Mile Island (TMI), and low flow augmentation from Whitney Point. As noted above, Whitney Point flows are designated for other uses and should not be attributed to BBNPP consumptive use. Mitigation releases for TMI cannot be used for BBNPP mitigation unless PPL establishes an agreement with TMI for its use, including a new and appropriate trigger for BBNPP, and proposes another acceptable source of mitigation for TMI. An upstream replacement mitigation source for Montour SES must be established for BBNPP to utilize the Cowanesque releases designated for Montour SES. (Please note, any redesignation of Cowanesque storage to any facility other than Montour SES may affect the application of Article 8, Compliance with SRBC Regulations, of the June 1986 Consumptive Use Make-up Agreement executed by PPL and SRBC.)
6. The model inputs by PPL include “average monthly CU” for all PPL consumptive facilities except for BBNPP. To assure the model provides appropriate protection, maximum average monthly consumptive use values should be used.
7. The model inputs include the “maximum simulated full load demand for each month” for BBNPP (23 mgd). The consumptive use requested in the application for BBNPP (28 mgd) should be used.
8. The model included an input to increase the Safe Harbor maximum operating level to EL. 228.0 feet. Absent an agreement with Safe Harbor, this may be an invalid assumption.

If you have any questions regarding the above, please feel free to contact Paula Ballaron at (717) 238-0423, extension 222.

Sincerely,



James L. Richenderfer, Ph.D., P.G.  
Director, Technical Programs

cc: Dennis Murphy; PPL  
Gary Petrewski; PPL  
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