

BellBendEnveRAIPEm Resource

From: Quinn-Willingham, Laura
Sent: Monday, November 05, 2012 5:47 PM
To: Sgarro, Rocco R
Cc: Terry, Tomeka; Mcdowell, Bruce K; Leigh, Kimberly D; Tom Grant (tgrant@numarkassoc.com); Haque, Mohammad; Masnik, Michael; Lyle F Hibler; rcodell@comcast.net; Richard B. Codell; BellBendEnveRAIPEm Resource
Subject: Final RAI ENV-19 - Water Availability
Attachments: ENV-19 RAI_6896_Water Availability.pdf

Rocky,

Please find attached the final RAI Env-19 for the Bell Bend COL application. RAI Env-19 is a new RAI related to water availability. The ENV-19 draft RAI was sent to you on October 22, 2012. There was no request for a clarification discussion of the draft RAI. No other changes are necessary; hence we are issuing the RAI as final.

The schedule we have established to the review of your application assumes technically correct and complete responses within 30 calendar days of receipt of final RAIs. For any RAIs that cannot be responded to within 30 calendar days, it is expected that a date for receipt of this information will be provided to the staff within the 30-day period so that the staff can assess how this information might impact the schedule.

Please contact me if you have any questions.

Thanks

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Subject: Final RAI ENV-19 - Water Availability
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From: Quinn-Willingham, Laura

Created By: Laura.Quinn-Willingham@nrc.gov

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Options

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Request for Additional Information ENV-19

Issue Date: 10/22/2012

Application Title: Bell Bend Environmental Review Docket Number 52-039

Operating Company: PPL Bell Bend LLC.

Docket No. 52-039

Review Section: EIS 5.2 - Water Related Impacts

Application Section: Part 3 - Environmental Report

QUESTIONS

EIS 5.2-6

The NRC staff must document its determination that the proposed project will be able to achieve its stated purpose of providing baseload electrical power over the period of the license. The proposed plant is designed to reject excess heat during operation by evaporative cooling using wet cooling towers, which results in a continuous consumption of water over the plant's license period. During low flow periods, the applicant and the Susquehanna River Basin Commission (SBRC) have informed the NRC staff that supplemental water would need to be obtained by the applicant to continue operation of the proposed plant. If supplemental water cannot be obtained, the applicant may not be able to achieve its stated purpose of providing baseload power over the period of the license. The applicant has not disclosed the exact manner in which supplemental water will be obtained and delivered to the Susquehanna River.

The NRC staff needs to understand how PPL meets the NRC Regulatory Guide (RG) 4.7 criterion of reasonable assurance that required permits could be obtained by SRBC for consumptive water use of 28 million gallons per day. This information is necessary for the staff to complete its evaluation of water-related impacts. Additionally, the SBRC has not completed rulemaking on mitigation requirements for consumptive use during periods of low flow. The staff must make a determination that it is reasonably foreseeable that the applicant would be able to operate the plant over the license period without having to derate or cease operation because of low water flow in the river. The staff must also make a determination that there is reasonable assurance that sufficient water in the basin is available and can be obtained by the applicant on a continuous basis to operate the plant while still protecting the environment. To make such a determination, the staff requires information on the options for flow supplementation that are or are not available to applicant. The staff also needs information on the likely frequency with which the applicant may need supplementation water and the amount of supplementation water that will likely be needed.

The staff has determined that the following information is required to continue its NEPA review:

1. Describe the process and schedule for resolving the issues stated by SBRC in its letter addressed to the applicant dated June 27, 2012 regarding the "pooled asset approach" to providing supplemental water.
2. Describe the options available for a source of the supplemental water and the options available for storage of the supplemental water is required. Include the location and type of each water supply (e.g. storage in existing reservoir; mine water; reclaimed water; storage in a new reservoir, etc). The staff needs to establish that there is adequate water available to continuously operate the station, but it does not require the financial details of possible purchases or trading agreements.
3. Describe the expected frequency in which supplemental water may be needed and the amount of supplemental water required under current flow conditions to continuously operate the proposed plant, with the assumption that SRBC will require passby flow. (In its letter dated February 16, 2012, SRBC stated: "...should SRBC determine that the requested surface water withdrawal cannot be approved without a passby condition, water storage upstream of BBNPP would be needed to assure that all sections of the

Susquehanna River are protected.”). Document the technical basis for all estimates.

4. Describe the expected frequency in which supplemental water may be needed and the amount of supplemental water required under reasonably foreseeable flow conditions at the end of the license period to continuously operate the proposed plant. The staff considers the effects of climate change on hydrological conditions to be reasonably foreseeable. The staff considers population growth projections consistent with the applicant's Need for Power determination to be reasonably foreseeable. Document the technical basis for all estimates.
5. Describe the expected changes in water quality under reasonably foreseeable flow conditions at the end of the license period. Document the technical basis for all estimates.
6. Describe the expected changes in water demand (basin-wide withdrawal and consumptive use) under reasonably foreseeable flow conditions at the end of the license period. Provide the location and type of each use. The staff acknowledges the large number of independent small water users and accepts stratified random sampling or regression methods as a suitable basis for water demand estimation. Document the technical basis for all estimates.

Acceptance Criteria:

ESRP Sections 2.3.1, 2.3.2, 2.3.3, 5.2.1, and 5.2.2; Regulatory Guides 4.2 and 4.7

EIS 5.2-7

Although the applicant will be required to obtain permits from SBRC and state agencies, the NRC staff does not presume that issuance of a permit by another agency alone guarantees that there would be no water-related impacts due to the construction or operation of the proposed plant. The NRC staff considers the permitting processes of other agencies; however, it is required to make an independent impact determination. The staff adopts a watershed perspective in consideration of water-related impacts. Therefore, the domain of consideration in this review is the entire Susquehanna River Basin.

The staff has determined that the following information on water quality is required for the staff to continue its evaluation of water-related impacts.

1. Describe the expected water quality of supplemental water. Describe any treatment required before discharging supplemental water to waterbodies. Describe any probable adverse impacts from discharging supplemental water into waters on the EPA 303(d) list.
2. Describe the expected changes in water quality under reasonably foreseeable flow conditions at the end of the license period. Document the technical basis for all estimates.

Acceptance Criteria:

ESRP Sections 2.3.1, 2.3.2, 2.3.3, 5.2.1, and 5.2.2; Regulatory Guide 4.2 and RG 4.7