

**R. R. Sgarro**  
Director - Regulatory Affairs

**PPL Bell Bend, LLC**  
Two North Ninth Street  
Allentown, PA18101-1179  
Tel. 610.774.7552 Fax 610.774.2618  
[rrsgarro@pplweb.com](mailto:rrsgarro@pplweb.com)



May 31, 2012

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

**BELL BEND NUCLEAR POWER PLANT  
RESPONSE TO RAI NO. 24  
BNP-2012-133      Docket No. 52-039**

References: 1) M. Canova (NRC) to R. R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 24 (RAI No. 24) – RHEB 2854, email dated July 10, 2009

2) BNP-2012-072, R. R. Sgarro (PPL Bell Bend, LLC) to Document Control Desk (NRC), "Schedule Information for Responses to Requests for Additional Information for the Bell Bend FSAR," dated March 14, 2012

The purpose of this letter is to respond to the Request for Additional Information (RAI) identified in Reference 1. In Reference 2, PPL Bell Bend, LLC (PPL) indicated that PPL would provide a response to RAI No. 24, Question 02.04.09-1 on or before June 13, 2012. This RAI addresses Channel Diversions as discussed in Section 2.4.9 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Bell Bend Nuclear Power Plant Combined License Application (COLA).

The Enclosure provides our response to RAI No. 24, Question 02.04.09-1.

Should you have questions, please contact the undersigned at 610.774.7552.

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

Executed on May 31, 2012.

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosures: As stated

D102  
NRO

cc: (w/ Enclosure)

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

(w/o Enclosure)

Mr. William Dean  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region I  
2100 Renaissance Blvd., Suite 100  
King of Prussia, PA 19406-2713

Enclosure

Response to RAI No. 24,  
Question 02.04.09-1

**RAI No. 24**  
**Question 02.04.09-1**

In accordance with the requirements of 10 CFR 100.20(c)(2), and 10 CFR 52.79(a)(1)(iii), the staff reviewed the Final Safety Analysis Report (FSAR), Chapter 2.4.9, Channel Diversions. The staff's review requires information for the hydraulic design basis for channel diversions that may affect safety related structures.

Staff's review of the information for potential channel diversions indicates that additional information is needed to complete the review. The staff requests that the applicant provide references and the technical bases for the potential for landslides to occur along Walker Run and other tributaries. In addition, please provide additional information on the potential for the landslides to block channels and divert flood flows, and please evaluate the potential effects of blockages on water surface profiles. As discussed in RAI 2.4.3-1 (b), input and output files for any water surface profile models used to evaluate the effects of blockages should be provided

**Response**

The HEC-RAS model used to determine the Probable Maximum Flood (PMF) water surface profiles for Walker Run, Unnamed Tributary #1 and Unnamed Tributary #2 is presented in the calculation package titled "*Post-Construction HEC-RAS Analysis of Walker Run-BBNPP*" (Calculation 10-4310.02-F11), which was provided previously, in the PPL response to RAI 19, Question 02.04.03-1<sup>1</sup>. The disk containing input and output files for the HEC-RAS model were also transmitted in the PPL response to RAI 19, Question 02.04.03-1<sup>1</sup>.

The analyses presented in "*Post-Construction HEC-RAS Analysis of Walker Run-BBNPP*" (Calculation 10-4310.02-F11), include potential impacts from debris blockages, ice blockages, sediment blockages and channel diversions. In addition to the standard PMF analysis (i.e., normal flow conditions), three scenarios were evaluated:

- (1) the PMF assuming all bridges along Walker Run, and the culvert in the teardrop wetlands (or along Unnamed Tributary #2), are blocked by debris/ice/sediment;
- (2) the PMF assuming a hypothetical landslide that blocks the Walker Run stream channel; and,
- (3) the PMF assuming both conditions specified in (1) and (2).

For more information regarding effects of blockages on water levels due to the scenarios that were modeled in HEC-RAS, refer to "*Post-Construction HEC-RAS Analysis of Walker Run-BBNPP*" (Calculation 10-4310.02-F11).

**COLA Impact**

No changes to the BBNPP COLA will be made as a result of the response to this RAI.

---

<sup>1</sup> BNP-2012-096, Rocco R. Sgarro (PPL Bell Bend, LLC) to Document Control Desk (NRC), "Response to RAI No. 19," dated May 2, 2012