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

July 13, 2012

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

BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI 90 QUESTION 03.08.05-8
BNP-2012-173 Docket No. 52-039

References: 1) M. Canova (NRC) to R. R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information Final Letter No. 90 (RAI No. 90) – SEB1 2508, email dated March 11, 2010

2) BNP-2012-072, R. R. Sgarro (PPL Bell Bend, LLC) to U.S. 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) of Reference 1. In Table 2 of Reference 2, PPL Bell Bend, LLC (PPL) indicated that PPL would provide a response to RAI No. 90, Question 03.08.05-8 on or before July 30, 2012. The question in RAI 90 addresses Foundations as discussed in Sections 3.8.5 of the Final Safety Analysis Report (FSAR), submitted as Part 2 of the Bell Bend Nuclear Power Plant (BBNPP) Combined License Application (COLA).

Enclosure 1 provides our response to RAI No. 90, Question 03.08.05-8, including revised COLA content. The revised COLA content will be included in a future revision of the BBNPP COLA. The future revision of the COLA is the only new regulatory commitment in this letter.

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 July 13, 2012.

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: 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 1

Response to RAI No. 90, Question 03.08.05-8

RAI 90
Question 03.08.05-8

For COL information item COL 3.8 (14) in the BBNPP COL FSAR, Subsection 3.8.5.6.1, "Materials," Page 3-191 (SRP Section 3.8.5), the applicant states in the 5th paragraph that "The maximum sulfate content for groundwater tested at the BBNPP site is 29 mg/L (ppm). Because this falls between 0 and 1500 ppm, the sulfate exposure in the groundwater is considered to be nonaggressive (NRC, 2007)."

Please revise the BBNPP COL FSAR to address the specific sub-section within SRP 3.8.5 that covers the limits on sulfates. Additionally, please provide information on the chlorides content in the groundwater and provide a comparison of the amount of chlorides in the groundwater at BBNPP to the allowable limits for chlorides.

Response

The specific subsection of Standard Review Plan (SRP) 3.8.5 which covers the limits on sulfates is SRP 3.8.5, Acceptance Criterion 7. The Bell Bend Nuclear Power Plant (BBNPP) Final Safety Analysis Report (FSAR) Section 3.8.5.6.1 will be revised to reference this SRP section. Additionally, FSAR Section 3.8.5.6.1 will be revised to provide updated information on the groundwater chemical properties for BBNPP. The provided results were obtained from samples gathered for the BBNPP Combined License Application (COLA) Part 3, Environmental Report, and were not gathered under a 10 CFR 50 Appendix B qualified Quality Assurance program. Therefore, an ITAAC will be added to the BBNPP COLA Part 10, Table 2.4-1 to confirm that the groundwater chemistry values are within acceptable limits.

COLA Impact

BBNPP COLA FSAR Section 3.8.5.6.1 and BBNPP COLA Part 10, Table 2.4-1 will be revised, as shown, in a future revision of the COLA.

3.8.5.6.1 Materials

The ESWEMS Pumphouse is embedded approximately 5 ft (1.5 m) below site grade. Maximum groundwater levels near the ESWEMS Pumphouse are expected to be approximately 7 ft (2m) below grade. Therefore, none of the reinforced concrete ESWEMS Pumphouse will be submerged in water.

~~The maximum chloride content of 2 mg/L (ppm) for BBNPP is within limitations for nonaggressive groundwater because it lies within the range of 0 to 500 ppm (NRC, 2007).~~

~~The maximum sulfate content for groundwater tested at the BBNPP site is 29 mg/L (ppm). Because this falls between 0 and 1500 ppm, the sulfate exposure in the groundwater is considered to be nonaggressive (NRC, 2007).~~

~~The pH range for the groundwater at the BBNPP site is between 5.7 and 5.81, which is considered to be neutral and nonaggressive. A site which has a groundwater pH value > 5.5 has nonaggressive groundwater (NRC, 2007).~~

Groundwater field and laboratory measurements to support the BBNPP Environmental Report produced a maximum chloride content of 8.7 mg/L (ppm) which is within the limitations for nonaggressive groundwater of 0 to 500 ppm provided in the acceptance criteria of SRP 3.8.5 (NRC, 2007).

Similarly, the data produced for sulfate content of the groundwater at the BBNPP site is a maximum of 28 mg/L(ppm) which is within the limitations for nonaggressive groundwater of 0 to 1500 ppm provided in the acceptance criteria of SRP 3.8.5 (NRC, 2007).

The data for pH of the groundwater at the BBNPP site is in the range of 6.12 to 8.87 which is considered to be neutral and nonaggressive. As noted in the acceptance criteria of SRP 3.8.5 (NRC, 2007), a site that has a groundwater pH value of greater than 5.5 is considered to have nonaggressive characteristics.

COLA Part 10: ITAAC

Table 2.4-1—{Concrete Fill, Structural Fill, Backfill, and Cohesive Fill for Seismic Category I and Seismic Category II-SSE Structures Inspections, Tests, Analyses, and Acceptance Criteria}

Commitment Wording	Inspections, Test, or Analysis	Acceptance Criteria
9. For Seismic Category I and Seismic Category II-SSE structures, the groundwater and soil chemistry meet acceptable requirements for concrete durability.	Tests will be performed to determine the chloride content, sulfate content and pH.	For Seismic Category I and Seismic Category II-SSE structures, the groundwater and soil chemistry complies with the design specification requirements for concrete durability.