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January 14, 2010

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

BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI No. 77
BNP-2010-003 Docket No. 52-039

References: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 77 (RAI No. 77) – SPCV-3629, email dated November 20, 2009

The purpose of this letter is to respond to the request for additional information (RAI) identified in the referenced NRC correspondence to PPL Bell Bend, LLC. This RAI addresses the Engineered Safety Feature Ventilation System, as discussed in Section 9.2 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. 77, Question 09.04.05-4, which includes revised COLA content. This future revision of the COLA is the only new regulatory commitment.

Should you have questions or need additional information, please contact the undersigned at 570.802.8102.

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

Executed on January 14, 2010

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: As stated

D077
A053
NRO

cc: (w/o Enclosures)

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Enclosure 1

Response to NRC Request for Additional Information No. 77
Bell Bend Nuclear Power Plant

RAI 77

Question 09.04.05-4:

RAI 9.4.15-2: Outdoor Air Temperatures

The outdoor air temperature selected (-21 F to 100 F) for the design basis seems to be different from the values selected in Section 9.2 and Chapter 2. Justify the selection of the outdoor air temperatures of -21 F to 100 F for the design basis of the ESWEMS HVAC system.

Response:

Bell Bend Nuclear Power Plant (BBNPP) FSAR Rev. 1, Section 2.3.1.2.2.16, "Temperature and Humidity for Heating, Ventilation and Air Conditioning", states that Tables 2.3-21 through 2.3-27 provide data to be used in the design of plant heating, ventilating, and air conditioning systems. Table 2.3-24 provides the 50 Year Extreme Annual Design Conditions of 99.9°F and -20.2°F that were used in obtaining the -21°F to 100°F temperature range, rounded to the nearest degree in the conservative directions, which were used for the design basis of the ESWEMS HVAC System.

Section 2.3.1.2.2.16 discusses a 0% exceedance dry bulb air temperature range of 100°F to -15.1°F for the same Wilkes-Barre/Scranton NWS site, listed in FSAR Table 2.3-22. FSAR Table 2.0-1, "U.S. EPR Site Design Envelope Comparison", lists an inconsistent air temperature 0% exceedance value range of 100°F to -23.7°F for BBNPP. The air temperature 0% exceedance value range is 100°F to -15.1°F for BBNPP. Section 2.3.1 indicates that the -23.7°F value is the 100-year return period minimum dry bulb temperature.

FSAR Table 2.0-1 also lists an inconsistent air temperature 1% exceedance value range of 85.8°F to -15.1°F for BBNPP. The air temperature 1% exceedance value range is 85.8°F to 27.9°F for BBNPP. The -15.1°F value listed in the air temperature 1% exceedance value range is actually the value for the air temperature 0% exceedance value minimum for BBNPP, mentioned above.

NUREG-0800 and Regulatory Guide 1.206 offer, as an example, using the 1% and 2% exceedance values for use in establishing heat loads for the design of plant HVAC systems. For the purpose of designing the HVAC System for the BBNPP ESWEMS Pumphouse, BBNPP has conservatively elected to use the 50 Year Extreme Annual Design Conditions for Wilkes-Barre/Scranton, as described by FSAR Section 2.3.1.2.2.16, which bounds the 1% and 2% exceedance values exemplified in NUREG-0800 and Regulatory Guide 1.206, and the 0% exceedance values stated in FSAR Section 2.3.1.2.2.16.

COLA Impact:

Table 2.0-1 of the Bell Bend FSAR will be changed to indicate the correct values, as shown.

Table 2.0-1 {U.S. EPR Site Design Envelope Comparison}

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			U.S. EPR FSAR Design Parameter Value/Characteristic	BBNPP Design Parameter Value/Characteristic
Temperature				
Air	0% Exceedance Values	Maximum	115°F Dry Bulb / 80°F Wet Bulb (coincident)	100°F (37.8°C) Dry Bulb /71.7°F (22.1°C) Wet Bulb (coincident) (See Section 9.2.1)
			81°F Wet Bulb (non-coincident) for UHS Design only	78.9°F (26.1 °C) Wet Bulb (non-coincident) for UHS Design only (See Section 9.2.1)
		Minimum	-40°F	~~-23.7°F (-30.9°C)~~ -15.1°F (-26.2°C) (See Section 2.3.1)
	1% Exceedance Values	Maximum	100°F Dry Bulb / 77°F Wet Bulb (coincident)	85.8°F (29.9°C)
			80°F Wet Bulb (non-coincident) for UHS Design only	76.2°F (24.6°C)
		Minimum	-10°F	~~-15.1°F (-26.2°C)~~ 27.9°F (-2.3°C)
UHS Meteorological Conditions				
Conditions resulting in Maximum Evaporation and Drift Loss of Water from the UHS (Section 2.3.1)			As presented in Table 2.1-3 – Design Values for Maximum Evaporation and Drift Loss of Water from the UHS	85.8°F (29.9°C) Dry Bulb /76.2°F (24.6°C) Wet Bulb (See Section 9.2.1.1)
Conditions resulting in Minimum Water Cooling in the UHS (Section 2.3.1)			As presented in Table 2.1-4 – Design Values for Minimum Water Cooling in the UHS.	73°F (22.8°C) (See Sections 9.2.1.1 and 2.3.1)
Potential for Water Freezing in the UHS Water Storage Facility (Sections 2.4.7 and 9.2.5)			As presented in Section 2.4.7 and 9.2.5	27.9°F (-2.3°C) - See Sections 2.4.7 and 9.2.5
UHS Design Parameters				
Maximum UHS Evaporative Water Loss	571 gpm			571 gpm (2.16 cm/min) (See Section 9.2.1.1)
Maximum Drift Water Loss	≤0.005%			<0.005% (See Section 2.3.1.2)
Design Cold (outlet) Water Temperature	≤95°F (max ESWS supply design limit)			<95 °F (52.8°C) (See Sections 2.3.1 and 9.2.1.1)