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September 28, 2009

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

BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI SET 46
BNP-2009-293 Docket No. 52-039

References: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 46 (RAI No. 46) – RAI-2451, email dated September 4, 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 Tornado Loads, as discussed in Section 3.3 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. 46, Question 03.03.02-1, which includes revised COLA content. A Licensing Basis Document Change Request has been initiated to incorporate these changes in a future revision of the COLA. This future revision of the COLA is the only new regulatory commitment contained in this submittal.

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 September 28, 2009

Respectfully,

Rocco R Sgarro

Rocco R. Sgarro

RRS/kw

Enclosure: As stated

D079
NRO

cc: (w/o Enclosures)

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Enclosure 1

Response to NRC Request for Additional Information No. 46
Bell Bend Nuclear Power Plant

BBNPP RAI No. 46
Question 03.03.02-1

General Design Criteria (GDC) -2 and GDC-4 in 10 CFR Part 50, Appendix A requires applicants to demonstrate that structures, systems and components (SSCs) important to safety shall withstand the effects of natural phenomena and postulated accidents. Tornado-generated missiles are part of both criteria. Please revise section 3.3.2.3 of the FSAR to include sufficient information to demonstrate that missiles generated from the collapse of structures that are not designed for tornado loads are bounded by the EPR DC FSAR 3.5.1.4 missile spectrum.

Additionally, please provide the technical basis for FSAR 3.3.2.3 statement of missiles generated from the collapse of site-specific structures that are not designed to withstand tornadoes are bounded by the EPR FSAR 3.5.1.4 missile spectrum. Describe the missiles that may be generated by the collapse of the site-specific structures listed in Bell Bend Nuclear Power Plant (BBNPP) FSAR Section 3.3.2.3, and explain how these missiles are bounded by the missile spectrum in Regulatory Guide 1.76. Please also explain the immediate and subsequent effect of the impact of these potential missiles on safety-related structures at BBNPP.

In order for the NRC staff to determine that structures that are not designed to withstand tornadoes will not represent a hazard for safety-related functions, please provide additional information about these structures and demonstrate compliance with GDC-2 and GDC-4 in 10 CFR 50, Appendix A.

Response

The U.S. EPR FSAR, Tier 2, Section 3.3.2.3, was revised as part of the AREVA response to U.S. EPR FSAR RAI 211, Supplement 2, Question 03.03.02-3 (ML092380664), to include information regarding the effect of failure of structures not designed for tornado loads.

Non-safety-related structures in close proximity to safety-related structures include the Turbine Building (TB), Access Building (AB) and Nuclear Auxiliary Building (NAB). These structures are to be evaluated in accordance with RG 1.76 tornado wind guidance to assure that the structures do not interact with safety-related structures. Safety-related structures are designed in accordance with RG 1.76 to conform to the Region I missile spectrum provided in Table 2 of RG 1.76, which by definition envelops individual missiles that may be generated from non-safety-related features in proximity to safety-related structures. Consideration of the same tornado wind load characteristics specified in RG 1.76 for the design of these non-safety-related structures assures that no new tornado wind generated missiles are created.

It is determined that the tornado missile design features described in the U.S. EPR FSAR require no modification to ensure the safety-related structures' ability to remain adequately protected from tornado missiles generated by natural phenomena at the BBNPP site.

COLA Impact

BBNPP COLA FSAR Section 3.3.2.3 will be revised as follows in a future revision of the COLA:

3.3.2.3 Effect of Failure of Structures or Components Not Designed for Tornado Loads

{Non-safety-related structures located on the site and not included in U.S. EPR FSAR Section 3.3.2.3 include:

- Fire Protection Water Tanks
- Fire Protection Building
- Warehouse Building
- Central Gas Supply Building
- Security Access Facility
- Switchgear Building
- Miscellaneous Structures in the Transformer and Switchyard Areas
- Circulating Water System Cooling Towers
- Circulating Water System Pumphouse
- Circulating Water System Makeup Water Intake Structure
- Waste Water Retention Basin
- Structure for Demineralized Water Tanks
- Water Treatment Building
- Meteorological Tower
- Grid Systems Control Building
- Administrative and Maintenance Buildings

These non-safety-related structures are miscellaneous steel and concrete structures, which are not designed for high wind and tornado loadings. However, the Fire Water Storage Tanks and the Fire Protection Building are designated as Seismic Category II-SSE structures, and are designed to remain functional during and following a design basis seismic event. These structures are located, such that their collapse from high winds or tornado loadings would not result in transfer of unanalyzed loads to ~~an impact interaction with an impact interaction with~~ any safety-related structure. Safety-related structures are designed and analyzed to withstand the effects of tornado missiles in accordance with RG 1.76. ~~Missiles generated by the collapse of these structures during high wind or tornado loadings are enveloped by the design basis tornado missile loads described in U.S. EPR FSAR Section 3.5.1.4.Missiles generated by the collapse of these structures during high wind or tornado loadings are enveloped by the design basis tornado missile loads described in U.S. EPR FSAR Section 3.5.1.4.~~

In addition, the monorail (a non-safety-related structural component) located on top of the ESWEMS Pumphouse is designed as Seismic Category II. Its failure ~~does not impair the design basis safety~~ ~~shall not impact the~~ ~~shall not impact the~~ function of safety-related SSCs or ~~create~~ ~~becomebecome~~ tornado generated missiles.}

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