BellBendCOLPEm Resource

From: Sgarro, Rocco R [rrsgarro@pplweb.com]
Sent: Wednesday, September 09, 2009 1:16 PM
To: Canova, Michael
Cc: 'j freels'; Kirkwood, Jon K; Woodring, Kathryn L; 'Yox, Michael J'
Subject: Response to RAIi 45
Attachments: BNP-2009-260.pdf

Mike,

Attached for your use is an advance copy of PPL's response to RAI 45. Please advise if you have any questions.

Rocky

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September 09, 2009

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BELL BEND NUCLEAR POWER PLANT
RESPONSE TO RAI No. 45
BNP-2009-260 Docket No. 52-039

References: 1) M. Canova (NRC) to R. Sgarro (PPL Bell Bend, LLC), Bell Bend COLA – Request for Information No. 45 (RAI No. 45) –SEB1-2450, 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 Wind Loading, as discussed in Table 2.0-1 and 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. 45, Question 03.03.01-1.

Our response to Question 03.03.01-1 includes one new regulatory commitment, which is to incorporate the identified change in Table 2.0-1 in a future COLA revision.

If you have any 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 09, 2009

Respectfully,

Rocco R. Sgarro

RRS/kw

Enclosure: As stated

cc: (w/o Enclosures)

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Enclosure 1

Response to NRC Request for Additional Information No. 45
Bell Bend Nuclear Power Plant

Question 03.03.01-1

To meet relevant NRC requirements, section 3.3.1 for NUREG 0800 presents acceptable values for wind force calculations. NUREG 0800 is not a substitute for NRC regulations; however, the applicants are required to identify any differences between NUREG 0800 and their independent approach, always supported with the related technical justification. The importance factor accounts for the degree of hazard to human life and damage to buildings and structures.

Please clarify which value is selected for the importance factor "I" to be used for the wind force calculation. The importance factor "I" presented in FSAR Table 2.0-1 is not the same as that which is proposed in EPR FSAR section 3.3.1.2, or the one in FSAR section 2.3.1.1.1.15. Please explain this variance, indicate the value for the importance factor used in the wind force calculation, and provide its technical justification.

In order for the NRC staff to determine whether the selected importance factor is adequate for the site, please provide additional information about this factor and demonstrate compliance with General Design Criteria-2 in 10 CFR 50, Appendix A.

Response:

The question refers to a value in Table 2.0-1 in the BBNPP FSAR. The value is referred to as an "Importance Factor" and is listed as 1.07. This value should be listed as 1.15 and be consistent with the U. S. EPR FSAR, Table 2.1-1, "U.S. EPR Site Design Envelope", Section 3.3.1.1, "Design Wind Velocity", and Section 3.3.1.2, "Determination of Applied Wind Forces".

COLA Impact:

FSAR Table 2.0-1 will be revised to modify the Importance Factor value to 1.15 in a future revision to the COLA as shown on the following page. Additionally, a wind speed conversion error has been corrected on Table 2.0-1 and is reflected on the FSAR page markup.

Table 2.0-1 {U.S. EPR Site Design Envelope Comparison}
(Page 2 of 4)

	U.S. EPR FSAR Design Parameter Value/Characteristic	BBNPP Design Parameter Value/Characteristic
Inventory of Radionuclides Which Could Potentially Seep Into the Groundwater		
Bounding Values for Component Radionuclide Inventory	See Table 2.0-2	See Table 2.0-2
Flood Level		
Maximum Flood (or Tsunami)	1 ft below grade	Approximately 3 ft (0.9 m) below grade except for the pumpwell structure of the ESWEMS Pumphouse which is normally submerged (note a) (See Sections 2.4.1 and 2.4.2, 2.4.10, 3.4.2, 3.4.3.10, 3.8.4.1.11, 3.8.4.3, and 9.2.5)
Wind		
Maximum Sustained Speed	145 mph (Based on 3-sec gust at 33 ft above ground level and factored for 50-yr mean recurrence interval.)	90 mph (~~0.45~~ 40.2 m/s) (based on 3 second gust at 33 feet for 50 year recurrence interval) (See Section 2.3.1)
Importance Factor	1.15 (Safety-related structures for 100-year mean recurrence interval.)	~~1.07~~ 1.15 (safety related structures for 100 year mean recurrence interval) (See Section 2.3.1)
Tornado		
Maximum Pressure Drop	1.2 psi at 0.5 psi/sec	1.2 psi (83 mb) at 0.5 psi/sec (34.5 mb/sec) (See Section 2.3.1)
Maximum Rotational Speed	184 mph	184 mph (82 m/s) (See Section 2.3.1)
Maximum Translational Speed	46 mph	46 mph (21 m/s) (See Section 2.3.1)
Maximum Wind Speed	230 mph	230 mph (103 m/s) (See Section 2.3.1)
Radius of Maximum Rotational Speed	150 ft	150 feet (45.7 m/s) (See Section 2.3.1)
Missile Spectra	6 in Schedule 40 pipe, 6.625 in diameter x 15 ft long, 287 lb, 34.5 in^2 impact area, impact velocity of 135 ft/sec horizontal and 90 ft/sec vertical.	Design values are enveloped (See Section 3.5)
	Automobile, 16.4 ft x 6.6 ft x 4.3 ft, 4000 lb, 4086.7 in^2 impact area, impact velocity of 135 ft/sec horizontal & 90 ft/sec vertical. (Automobile missile is considered at elevations up to 30.0 ft above grade elevation.)	Design values are enveloped (See Section 3.5)
	Solid steel sphere, 1 in diameter, 0.147 lb, 0.79 in^2 impact area, impact velocity of 26 ft/sec horizontal & 17 ft/sec Vertical.	Design values are enveloped (See Section 3.5)

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