

BellBendCOLPEm Resource

From: Canova, Michael
Sent: Thursday, May 07, 2009 11:47 AM
To: Canova, Michael; Sgarro, Rocco R; BBNPP@pplweb.com; jennifer.mcqueeney@unistarnuclear.com; Katie.Thurstin@unistarnuclear.com; Tammara, Seshagiri; Zalcman, Barry
Cc: BellBendCOL Resource; Weisman, Robert
Subject: Bell Bend COLA - Request for Information No. 2 (RAI No. 2)- RSAC - 2425
Attachments: letter 2 - RAI 2425 RSAC.pdf

This mailing supercedes the mailings dated 5/6/09 regarding RAI No. 2.

RAI No. 2 is attached regarding the Bell Bend COL Application. Per our discussion of April 17, We understand that you have no questions regarding the content of the initial draft sent to you on April 20, 2009.

You are requested to respond to this request within 30 days of this mailing. response durations are factored into your review schedule. If additional time is required to respond, please inform me of your proposed schedule to respond at your earliest opportunity.

If you have any questions, please contact me.

Michael A. Canova

Project Manager - Bell Bend COL Application
Docket 52-039
EPR Project Branch
Division of New Reactor Licensing
Office of New Reactors
301-415-0737

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Request for Additional Information No. 2 Revision 0
5/7/2009

Bell Bend
PPL Bell Bend LLC.
Docket No. 52-039
SRP Section: 02.02.03 - Evaluation of Potential Accidents
Application Section: 2.2.3.1.1

QUESTIONS for Siting and Accident Consequence Branch (RSAC)

02.02.03-1

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.1 addresses explosions. The methodology is briefly addressed. The results provided in Table 2.2-8 for gasoline and acetylene explosions along U.S. Route 11 do not match with Staff's independent confirmatory calculation results obtained by following the addressed methodology. Please state the correct units for the amounts used in the analysis (e.g., gallons instead of pounds). The staff found similar discrepancies in the results for all other chemicals considered. Please either provide calculations with respect to hazards from all chemicals or state the location at which the calculation package is available for staff audit. Please revise the Tables 2.2-8 and 2.2-9 to also include the results for Ammonium Hydroxide.

02.02.03-2

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.1 addresses explosions. It appears that, as applied in the ALOHA model, chemicals in liquid form such as gasoline and dimethylamine are modeled as direct release. Please clarify. If ALOHA modeling used a puddle scenario, please provide the ALOHA inputs. Explain why hydrazine (35% solution) is not evaluated as a potential flammable vapor cloud and included in Table 2.2-9. Please clarify.

02.02.03-3

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.2 addresses flammable vapor clouds. The applicant's ALOHA Vapor Cloud modeling the ignition of 80000 lbs of gasoline gave a distance of 0.4 mi for attenuation of a resulting pressure wave to 1.0 psi. The results presented in Table 2.2-9 of the COL FSAR for ignition of 4000 gal (18647 lbs) of gasoline identified a distance of only 1323 ft (0.25 mi) for attenuation of the resulting pressure wave to 1.0 psi. Please explain how these results are reasonable and provide ALOHA inputs for the staff's confirmatory analysis.

02.02.03-4

RG 1.206 provides guidance regarding the information that is needed to ensure that potential hazards in the site vicinity are identified and evaluated in order to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.2 addresses flammable vapor clouds. Please describe in detail how the applicant applied the ALOHA model to determine the hydrogen concentration (1.49% units) from SSES and the natural gas concentrations from pipelines of 1.76% and 1.32% presented in Table 2.2-9 of the COL FSAR, including any release height used and plume rise algorithms

02.02.03-5

RG 1.206 provides guidance regarding the information that is needed to ensure potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.3 addresses toxic chemicals. There is no Immediately Dangerous to Life and Health (IDLH) threshold value, as defined by National Institute for Occupational Safety and Health (NIOSH), established for gasoline. The maximum (conservative) Threshold Limiting Value (TLV) normally used for this type of application is 300 ppm. The applicant has, however, used a Short Term Exposure Limit (STEL) value of 500 ppm. Please provide results based on the use of 300 ppm (TLV) value, and the rationale for the use of the 500 ppm STEL value.

02.02.03-6

RG 1.206 provides guidance regarding the information that is needed to ensure that potential hazards in the site vicinity are identified and evaluated to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.3 addresses toxic chemicals. Please clarify the form in which sodium hypochlorite is modeled. Please also provide the release rate used.

02.02.03-7

RG 1.206 provides guidance regarding the information that is needed to ensure that potential hazards in the site vicinity are identified and evaluated in order to meet the siting criteria in 10 CFR 100.20 and 10 CFR 100.21. BBNPP EPR COL FSAR Section 2.2.3.1.3 addresses toxic chemicals. For all chemicals, including but not limited to sodium hypochlorite, ammonia, methane, dimethylamine, gasoline, and hydrogen, whose control room inlet concentration exceeds the IDLH concentration, please demonstrate that the concentration inside the control room is lower than the IDLH. Alternatively, demonstrate how long the IDLH in the control room is exceeded by running the HABIT model as per the control room habitability guidance provided in RG 1.78. Please provide the ALOHA modeled calculations package and any others that apply.

