

BellBendCOLPEm Resource

From: Canova, Michael
Sent: Thursday, May 07, 2009 11:56 AM
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Cc: BellBendCOL Resource; Weisman, Robert
Subject: RE: Bell Bend COLA - Request for Information No. 4 (RAI No. 4)- SPLA - 1878
Attachments: Letter 4 -RAI 1878 SPLA.pdf

This mailing supercedes the mailing dated 5/6/09 regarding RAI No. 4.

RAI No. 4 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. 4 Revision 0
5/7/2009

Bell Bend
PPL Bell Bend LLC.
Docket No. 52-039

SRP Section: 19 - Probabilistic Risk Assessment and Severe Accident Evaluation
Application Section: 19.1

QUESTIONS for PRA Licensing, Operations Support and Maintenance Branch 1 (AP1000/EPR Projects) (SPLA)

19-1

The probabilistic risk assessment (PRA) guidance (Chapter 19) in section C.III of Regulatory Guide (RG) 1.206 states that “[i]n cases where it can be shown that assumptions in the certified design PRA (1) bound certain site-specific and plant-specific parameters, and (2) do not have a significant impact on the PRA results and insights, no change to the design certification PRA is necessary.” The discussion of losses of offsite power (LOOP) on page 19-8 of the Bell Bend Nuclear Power Plant (BBNPP) Final Safety Analysis Report (FSAR) states that “[t]he U.S. EPR PRA Loss of Offsite Power recovery probabilities bound BBNPP site-specific values.” Please revise the FSAR to include site-specific values (both at power and during shutdown) that support this statement, as well as the source for the values.

19-2

Please provide enough detailed information regarding the circulating water system (CWS) (see page 19-7 of the FSAR) to support the conclusion that the U.S. EPR PRA bounds the plant-specific CWS design. Revise the FSAR to include a quantitative discussion of how the failure probability of the plant-specific CWS and normal heat sink (NHS) is bounded by the NHS undeveloped event modeled in the U.S. EPR PRA, as well as how assumptions related to the NHS model have been confirmed for the BBNPP site.

19-3

The application identifies the use of CWS pumps to cool turbine building equipment, as stated in the FSAR, as a plant-specific change to the design modeled in the PRA developed for the U.S. EPR design certification. Please identify all additional plant-specific changes to the design of the closed cooling water system (CLCWS) or auxiliary cooling water system (ACWS) as modeled in the U.S. EPR PRA. These systems are described in the AREVA NP response to Question 19-07 (RAI 2; May 30, 2008) on the U.S. EPR design certification application.

19-4

Describe how the plant-specific ultimate heat sink (UHS) support systems (identified in section 9.2.5.2 of the BBNPP FSAR) are modeled in the BBNPP PRA. If the support

systems are not modeled, demonstrate that the assumptions in the U.S. EPR PRA bound the plant-specific parameters for these support systems and that there is no significant impact on the PRA results and insights.

19-5

Describe how the UHS makeup water intake structure ventilation system and UHS electrical building ventilation system are modeled in the BBNPP PRA. If failures of ventilation components are not modeled, provide a quantitative justification for exclusion of these ventilation failures from the model, with reference to failure probabilities, room heat-up assumptions, and operator actions that are possible. (Note that the AREVA NP responses to Questions 19-62 (RAI 7; June 16, 2008) and 19-169 (RAI 26; August 15, 2008) on the U.S. EPR design certification application address design-specific ventilation dependencies.)

19-6

The AREVA NP response to Question 19-166 on the U.S. EPR FSAR (RAI 26; October 31, 2008) includes a draft version of Table 19.1-109, which lists assumptions from the PRA. Footnote 2 to the table states that these assumptions will be reevaluated as part of the PRA maintenance and upgrade process and that combined license (COL) item 19.1-9 is provided to confirm that assumptions used in the PRA remain valid during operation. Neither the proposed license condition related to COL item 19.1-9 nor the description of the maintenance and upgrade process in Section 19.1.2.4.1 of the BBNPP FSAR refers to this table in the U.S. EPR FSAR. Explain how this table would be used to ensure that the BBNPP PRA continues to reflect the plant as it is constructed and operated. (Note that the PRA maintenance and upgrade process is addressed in Title 10 of the Code of Federal Regulations (10 CFR) 50.71(h)(2).) Revise the FSAR and license condition as appropriate.

19-7

Clarify whether the risk metrics resulting from the quantitative screening of external events described in Section 19.1.5 of the BBNPP FSAR are outputs of the at-power PRA or the PRA considering all modes of operation. If the at-power PRA was used, revise the FSAR to expand the description of the screening process and its numerical results to all modes of operation. The staff needs this information to evaluate the significance, if any, of external events occurring during low power and shutdown.