

CCNPP3COLA PEmails

From: John Rycyna
Sent: Monday, March 16, 2009 10:03 AM
To: Poche, Robert; McQueeney, Jennifer; katie.thurstin@unistarnuclear.com
Cc: CCNPP3COL Resource; Theresa Clark; Lynn Mrowca; Joseph Colaccino; Adam Gendelman; James Biggins
Subject: RAI No 78 SPLA 1837.doc (PUBLIC)
Attachments: RAI No 78 SPLA 1837.doc

Rob,

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on March 2, 2009. No conference call was requested to discuss this RAI. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

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Request for Additional Information No. 78
3/16/2009

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
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)

19-8

The response to Question 19-166 on the U.S. EPR Final Safety Analysis Report (FSAR) includes a draft version of Table 19.1-109, which lists assumptions from the probabilistic risk assessment (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 for the as-to-be-operated plant. 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 CCNPP Unit 3 FSAR refers to this table in the U.S. EPR FSAR. Discuss how this table will be used to ensure that the CCNPP Unit 3 PRA reflects the as-to-be-built, as-to-be-operated plant. Revise the FSAR and license condition as appropriate.

19-9

Clarify whether the risk metrics resulting from the quantitative screening of external events described in Section 19.1.5 of the CCNPP Unit 3 FSAR are outputs of the at-power probabilistic risk assessment (PRA) or the PRA considering all modes of operation. If the at-power PRA was used, provide a similar discussion for external events that occur during shutdown so that the staff can use the discussion to reach its conclusions for the impact of external events on total core damage frequency (CDF) and large release frequency (LRF).

19-10

The evaluation of site-specific items in Section 19.1.4.1 of the CCNPP Unit 3 FSAR concludes that "the U.S. EPR FSAR [probabilistic risk assessment] PRA for Level 1 internal events at power is applicable and bounding for the CCNPP Unit 3 site." However, no discussion of the applicability of the U.S. EPR shutdown PRA to the CCNPP Unit 3 site is provided in Section 19.1.6.1 of the CCNPP Unit 3 FSAR. For each site-specific item evaluated in Section 19.1.4.1, as well as any additional site-specific items applicable only to the shutdown PRA, revise Section 19.1.6.1 to discuss how the U.S. EPR shutdown PRA is applicable and bounding.

19-11

(Follow-up to Question 19-2) The response to Question 19-2 provides additional information on the derivation of the failure frequency and probability for the circulating water system (CWS) and normal heat sink (NHS), represented by the undeveloped event "SUP UHS NS." The undeveloped event has a failure frequency of $1E-2$ per year (/yr) and a failure probability of $2.8E-5$ over a 24-hour mission time. However, it is unclear that these values bound all failure modes of the CWS and NHS. For example, the staff observes that the CWS has four 25-percent trains, and NUREG/CR-6928 indicates that the probability of a motor-driven pump failing to run over a 24-hour mission time may be as high as $1E-4$. Provide additional information (e.g., system design, success criteria for both initiating events and mitigating functions, failure probabilities) to demonstrate that the plant-specific CWS and NHS are bounded by the undeveloped event "SUP UHS NS."