CCNPP3eRAIPEm Resource

From: Arora, Surinder
Sent: Friday, January 21, 2011 10:33 AM
To: 'Poche, Robert'; 'cc3project@constellation.com'; Scott, Roger D
Cc: CCNPP3eRAIPEm Resource; Wheeler, Larry; Lee, Samuel; Colaccino, Joseph; Hearn, Peter; Wilson, Anthony; Vrahoretis, Susan
Subject: Final RAI 286 SBPA 5313
Attachments: FINAL RAI 286 SBPA 5313.doc

Rob,

Attached please find the subject request for additional information (RAI). The draft of this RAI was sent to you on December 23, 2010. A clarification phone call requested by UniStar was held on January 20, 2011, which resulted in minor changes to draft RAI question 9.2.5-18, item (3), regarding bullet 10. These changes are reflected in this final 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 schedule date for submitting your technically correct and complete response will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the review schedule.

Your response letter should also include a statement confirming that the response does or does not contain any sensitive or proprietary information.

Thanks.

SURINDER ARORA, PE
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Request for Additional Information No. 286 (eRAI 5313)

1/21/2011

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
SRP Section: 09.02.05 - Ultimate Heat Sink
Application Section: 9.2.9

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

09.02.05-18

Below are follow up questions for RAI 171, Q9.2.5-2 and RAI 171, Q9.2.5-3.

For RAI 171, Q9.2.5-2, there are 3 follow up questions.

(1) Regarding Bullets 4 and 5:

Applicant's response to the RAI stated that there are two 100% capacity pumps with the following flow rates: desalinated water flow rate of 1225 gpm (4637 lpm), nominal pump flow rate of 790 gpm (2992 lpm) for head determination, and the average flow rate of 807 gpm (3055 lpm), and the maximum flow rate of 2411 gpm (9126 lpm).
The maximum UHS evaporate water loss is indicated in Table 2.0-1, “U.S. ERP Site Design Envelope Comparison,” as 1364 gpm (5163 lpm). The U.S.EPR Tier 2 Table 9.2.5-2, “Ultimate Heat Sink Design Parameters,” states that the maximum evaporation loss at design conditions (total both cells) is 571 gpm (2161 lpm).
Based on the staff's review of the appllicant's response, the desalinated water pump design capacity is not clear for CCNPP Unit 3 and neither is the available margin that would be maintained above its Technical Specification water level in the UHS basin. Therefore, the applicant should provide information that clearly addresses this question.

(2) Regarding Bullet 7:

In response to the RAI, the applicant provided revised FSAR Figure 9.2-7, “Raw Water and Desalinated Water System,” which indicates specific location of RWSS equipment and major isolation valves. However, the figure does not show the flow path to the potable water system. This conflicts with CCNPP Unit 3 FSAR Sections 9.2.9.2 and 9.2.9.3 which state that a second pair of 100% capacity pumps is provided for potable water demand. The applicant should provide information that reconciles this apparent conflict.

(3) Regarding Bullet 10:

The revised FSAR Section 14.2.14.1 adequately describes the standby desalinated water transfer pump's automatic start upon sensing a low discharge pressure or upon the trip of the desalinated water transfer pump. The applicant stated in its response that Section 9.2.9.3 would be revised to remove the ‘desalinated water transfer pumps - Potable Water.’ However, this FSAR markup was not provided as part of the RAI response. Revision 7 of the COL FSAR states that “a second pair of 100% capacity

pumps is provided for potable water demand”. Therefore, this markup should be provided or provide a clarification to this statement from part 10 of this RAI response.

For RAI 171, Q9.2.5-3, there is 1 follow up question.

The applicant's response to this RAI stated that an "evaluation of impact of a failure of the non-safety-related RWSS piping on the ESWS pumphouse buildings and ESWS cooling towers indicates that the RWSS piping has no impact on the ability of the ESWS pumphouse buildings and ESWS cooling towers to meet their intended safety function." However, the applicant did not justify this conclusion was made.
The applicant’s response to Q9.2.5-2 stated that non-safety-related materials for the RWSS underground piping may include materials such as fiberglass reinforced plastic (FRP) or high density polyethylene (HDPE). Assuming a seismic event, the staff considers that all four trains of the non-safety-related pipes could be breached at their interface to the ESW pump house with the desalinated water transfer pumps running at high flow rate, continuing to feed the break. The applicant should describe in the CCNPP Unit 3 FSAR the impact of a seismic event on the ESWS pump house and the means by which the UHS cooling towers and ESWS components would continue to meet their intended safety function. The details of this evaluation should be provided.