CCNPP3eRAIPEm Resource

From: Arora, Surinder
Sent: Thursday, October 07, 2010 2:33 PM
To: 'Poche, Robert'; 'cc3project@constellation.com'; Scott, Roger D
Cc: CCNPP3eRAIPEm Resource; Roach, Edward; Dehmel, Jean-Claude; Jones, Henry; Colaccino, Joseph; Biggins, James; Vrahoretis, Susan; Chazell, Russell; Steckel, James
Subject: FINAL RAI 266 CHPB 5098
Attachments: FINAL RAI 266 CHPB 5098.doc

Rob,

Attached please find the subject request for additional information (RAI). The draft of this RAI was sent to you on October 1, 2010. In a phone call on October 7, 2010, you informed us that UniStar does not need a clarification phone call for this RAI and the RAI can be issued final.

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
PROJECT MANAGER,
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US Nuclear Regulatory Commission

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From: Arora, Surinder

Created By: Surinder.Arora@nrc.gov

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Request for Additional Information No. 266 (eRAI 5098)

10/7/2010

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
SRP Section: 02.04.13 - Accidental Releases of Radioactive Liquid Effluents in Ground and Surface Waters
Application Section: 2.4.13

QUESTIONS for Health Physics Branch (CHPB)

02.04.13-6

Supplemental question to the response to RAI 104, Question 02.04.13-4

In RAI 104, Question 02.04.13-4, the staff asked the applicant to provide technical information supporting the conclusion that the postulated ground water exposure pathway applies a conservative approach in analyzing the postulated failure of a radioactive waste tank containing radioactive materials. The applicant submitted a response on June 30, 2010 addressing the issues identified in the RAI. In addition to updating the ground water model, the applicant also included in its response the results of an updated evaluation assessing the radiological impact of a failed radioactive waste tank. Based on a review of this response, CHPB and RHEB staff have identified the following items for the applicant to address and resolve in FSAR Tier 2, Section 2.4.13.

a. Table 2.4-206 – Results for Chesapeake Bay

The dose result of 9.5 mrem was confirmed independently using the information presented in this table and FSAR Tier 2, Section 2.4.13.1.4.7, and assumed radionuclide concentrations based on U.S. EPR, FSAR Section 11.1, Table 11.1-2. However, the basis of the stated consumption rates for fish (5.4 kg/yr) and mollusk/crustacean (0.9 kg/yr) are not attributed to specific references. The applicant should identify the references in the text for the assumed consumption rates. Also, the staff is questioning the use of RESRAD code data and their basis for the stated consumption rates. The RESRAD code was developed for the purpose of evaluating sites after the decommissioning of nuclear facilities. Regarding the consumption rates of fish, mollusk and crustacean, see guidance and supporting information on consumption rates listed in Tables E-4 and E-5 of Regulatory Guide 1.109. The concerns with the RESRAD data is that they may not be sufficiently conservative in assessing the impacts of a radwaste tank failure. The objective is to use a common set of data and references in applying fish, mollusk, and crustacean consumption rates. This would result in having to recalculate all dose results presented in Table 2.4-206 and other dose results as warranted.

The staff is questioning the use of freshwater site bioaccumulation factors in assessing the transfer of radioactivity from water to fish/crustacean/mollusk in a saltwater environment. Note that the dose assessments applied in the CCNPP-3 ER and FSAR Tier 2, Section 11.2 for radwaste liquid effluent releases are based on parameters that characterize a saltwater site. The applicant is requested to update its assessment using bioaccumulation factors for a saltwater site. For guidance and supporting information,

see Table A-1 of Regulatory Guide 1.109, or GENII Computer codes, Appendix D, Tables D.11 to D.13. The objective is to use a common set of data and references in applying bioaccumulation factors for salt and freshwater site conditions. This would result in having to recalculate all dose results presented in Table 2.4-206 and other dose results as warranted.

b. Table 2.4-211 – Results for Branch 2

The dose result of 23 mrem was confirmed independently using the information presented in this table and FSAR Tier 2, Section 2.4.13.1.4.7, and assumed radionuclide concentrations based on U.S. EPR, FSAR Section 11.1, Table 11.1-2. However, the basis of the stated consumption rates fish (5.4 kg/yr) and mollusk/crustacean (0.9 kg/yr) are not attributed to specific references. The applicant should identify the references in the text for the assumed consumption rates.

The staff is also questioning the use of RESRAD code data and their basis for the stated consumption rates. The RESRAD code was developed for the purpose of evaluating sites after the decommissioning of nuclear facilities. Regarding the consumption rates of fish, mollusk and crustacean, see guidance and supporting information on consumption rates in Tables E-4 and E-5 of Regulatory Guide 1.109. The concerns with the RESRAD data is that they may not be sufficiently conservative in assessing the impacts of a radwaste tank failure. The objective is to use of a common set of data and references in applying fish, mollusk, and crustacean consumption rates. This would result in having to recalculate all dose results presented in Table 2.4-211 and other dose results as warranted.