

CCNPP3eRAIPEm Resource

From: Arora, Surinder
Sent: Wednesday, June 19, 2013 3:24 PM
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Cc: CCNPP3eRAIPEm Resource; Segala, John; Wilson, Anthony; McCoppin, Michael; Stutzcage, Edward; Clark, Phyllis; McLellan, Judith
Subject: CCNPP3 - Final RAI 391 RPAC 7115
Attachments: FINAL RAI 391 RPAC 7115.doc

Attached to this email message is Final RAI No. 391 (eRAI No. 7115) pertaining to Chapter 12 of the FSAR for the Combined License Application for CCNPP3. The draft of this RAI was issued to UniStar on June 3, 2013. A clarification phone call, requested by UniStar, was held on June 17, 2013; however, no technical changes to the draft questions were required by this clarification phone call. This email, therefore, transmits the “final” version of the RAI. Note that as discussed during the clarification phone call, the question number for the RAI question has been corrected to match with the appropriate section of the FSAR.

The schedule that we have established for review of your application assumes that your technically complete response to the RAI question or a schedule for providing the response must be received within 30 days of the final RAI. Please note that if you are providing a response schedule in lieu of the technically complete response, the staff will re-evaluate the completion schedule of the chapter based on your proposed response date.

Additionally, please make sure that your response letter includes a statement whether or not your response contains any sensitive or proprietary information.

Thanks.

SURINDER ARORA, PE
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Request for Additional Information 391 (eRAI 7115)

Issue Date: 6/19/2013

Application Title: Calvert Cliffs Unit 3 - Docket Number 52-016

Review Section: 12.03-12.04 - Radiation Protection Design Features

Application Section: 12.03-12.04

QUESTIONS

12.03-12.04-11

This RAI is a follow up to RAI 354, Question 12.03-12.04-10.

Calvert Cliffs Unit 3 construction workers are considered members of the public. Therefore, Calvert Cliffs Unit 3 construction workers cannot exceed the dose limits provided in 10 CFR 20.1301. 10 CFR 20.1301 requires that the total effective dose equivalent to individual members of the public does not exceed 100 mrem in a year or 2 mrem in any one hour. Consistent with the requirements in 10 CFR 20.1302, the licensee is required to make or cause to be made, as appropriate, surveys of radiation levels in unrestricted and controlled areas and radioactive materials in effluents released to unrestricted and controlled areas to demonstrate compliance with the dose limits for individual members of the public in § 20.1301. The licensee shall show compliance with the annual dose limits in 10 CFR 20.1301, as described in 10 CFR 20.1302(b).

In response to Question 12.03-12.04-10 and in subsequent calculation packages provided to the staff, UniStar provided information indicating that doses to construction workers would remain below 100 mrem/year during the construction period. However, this information is based on workers being located in expected working areas and assumes that stay times of workers in higher dose rate areas are limited. Staff notes that construction worker dose rates could potentially be greater than indicated if workers enter higher dose rate areas (such as adjacent to the ISFSI or resin storage area fence) or if an individual worker spends greater than the expected amount of time in higher dose rate areas. In addition, the applicant indicated that there are still some uncertainties related to the loading of the ISFSI and resin storage area and uncertainties related to the location of workers.

UniStar acknowledges in FSAR Section 12.3.5.1 and in subsequent calculation packages that they will be relying on Calvert Cliffs Units 1 & 2 radiation protection and ALARA programs to ensure that construction worker doses are maintained ALARA and that the limits provided in 10 CFR 20.1301 are not exceeded. However, upon reviewing the recent information provided by UniStar, it became apparent that the applicant cannot definitively ensure construction worker dose limits will not be exceeded without relying on operational program(s). Staff notes that for Calvert Cliffs Unit 3 to credit the Calvert Cliffs Units 1 & 2 radiation protection and ALARA programs, Calvert Cliffs Units 1 & 2 will have to update their programs and licensing basis to appropriately include Calvert Cliffs Unit 3. Finally, staff has concerns regarding specific construction areas near the ISFSI and resin storage area from reviewing the applicant's calculation packages and FSAR Revision 9.

Based on the above discussion, UniStar is requested to provide the following additional information:

1. Provide documentation of the agreement between Calvert Cliffs Units 1 & 2 and Calvert Cliffs Unit 3 showing that Calvert Cliffs Units 1 & 2 commit to expand their radiation protection and ALARA programs to cover Calvert Cliffs Unit 3 construction workers.
2. Revise Calvert Cliffs Unit 3 FSAR Section 12.3.5 to provide more information explaining how the Calvert Cliffs 1 & 2 radiation protection and ALARA programs will function for Calvert Cliffs Unit 3 construction workers.

3. Update Calvert Cliffs Unit 3 FSAR Table 13.4-1 to indicate when the Calvert Cliffs Units 1 & 2 radiation protection and ALARA programs will take effect and terminate for Calvert Cliffs Unit 3.
4. Update the construction worker dose rate calculation information in Calvert Cliffs Unit 3 FSAR Section 12.3.5 with current data and dose estimates, consistent with information provided to staff in the most recent calculation packages, ensuring that the data presented in the FSAR is accurate and consistent.
5. FSAR Revision 9, Figures 12.3-7 and 12.3-11 show a spoils, painters, and operators area adjacent to the resin storage area. FSAR Table 12.3-5 provides historical TLD readings along the resin storage area fence adjacent to the spoils, painters, and operators area reading as high as 166 milli-Roentgen/90 days. However, FSAR Table 12.3-9 indicates that the maximum dose rate to a construction worker over a 2,200 hour period in the Laydown/Spoils area is 22.36 mrem.
 - a. Please explain why the maximum dose rate in laydown/spoils areas is only 22.36 mrem/2,200 hours, when historical TLD readings very close to the laydown/spoils area adjacent to the resin storage area, have been as high as 166 mrem/90 days and 372 mrem/year in calendar year 2001.
 - b. In addition, since dose rates near the resin storage area fence could potentially exceed 100 mrem/2,200 hours, please update FSAR Section 12.3.5 to describe any specific procedures or controls that will be utilized to ensure that individual construction workers will not receive doses in excess of 100 mrem/year (particularly for workers in the spoils, painters, and operators area, adjacent to the resin storage area).
 - c. 10 CFR 20.1101(b) requires that the licensee use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve doses to members of the public that are as low as is reasonably achievable (ALARA). Please explain how having the spoils, painters, and operators area in such close proximity to the resin storage area is ALARA.
6. FSAR Figures 12.3-7 and 12.3-11 show a parking lot to the southwestern side of the ISFSI. A small portion of this parking lot is inside the 100 mrem/8,760 hours contour in Figure 12.3-7.
 - a. Since there are uncertainties in the future loading of the ISFSI, please update the FSAR describing any specific procedures or controls that will be utilized to ensure that a construction worker does not receive significant dose from spending time in the parking lot or receive doses in excess of regulatory limits from spending time in the parking lot.
 - b. 10 CFR 20.1101(b) requires that the licensee use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve doses to members of the public that are as low as is reasonably achievable (ALARA). Please explain how locating this parking lot so close to the ISFSI is ALARA.