

ArevaEPRDCPEm Resource

From: Tesfaye, Getachew
Sent: Thursday, December 08, 2011 11:04 AM
To: 'usepr@areva.com'
Cc: Curran, Gordon; McKenna, Eileen; Hearn, Peter; Segala, John; ArevaEPRDCPEm Resource
Subject: U.S. EPR Design Certification Application RAI No. 530 (6197), FSAR Ch. 9
Attachments: RAI_530_SBPB_6197.doc

Attached please find the subject request for additional information (RAI). A draft of the RAI was provided to you on November 25, 2011, and on December 5, 2011, you informed us that the RAI is clear and no further clarification is needed. As a result, no change is made to the draft RAI. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs, excluding the time period of **December 24, 2011 thru January 2, 2012, to account for the holiday season** as discussed with AREVA NP Inc. For any RAIs that cannot be answered **within 40 days**, it is expected that a date for receipt of this information will be provided to the staff within the 40-day period so that the staff can assess how this information will impact the published schedule.

Thanks,
Getachew Tesfaye
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Request for Additional Information No. 530(6197), Revision 0

12/08/2011

U. S. EPR Standard Design Certification
AREVA NP Inc.

Docket No. 52-020

SRP Section: 09.01.05 - Overhead Heavy Load Handling Systems

Application Section: SRP 9.1.5

QUESTIONS for Balance of Plant Branch 2 (SBPB)

09.01.05-24

OPEN ITEM

In order for the staff to conclude that the all components of the overhead heavy load handling system (OHLHS) are designed to meet GDCs 1, 2, 4, and 5, the staff issued RAIs 9.1.4-15 through 9.1.4-18 requesting the applicant to provide details of their spent fuel cask transfer facility (SFCTF) which is used for cask loading. In the response to RAI 9.1.4-15 through 9.1.4-18, the applicant indicated that the SFCTF contains heavy lifting devices. However, not all of these devices are defined in the FSAR.

The staff finds that the details of these components are needed to complete the review of the OHLHS. As a result of the review of the fuel handling system in FSAR Section 9.1.4, the staff requests the applicant to provide additional details of the devices used in the SFCTF that are classified as heavy load handling components. In addition to the auxiliary crane used in the SFCTF, the biological lid handling station and the penetration upper cover hoist are categorized as heavy load handling equipment. In addition, the staff is unable to determine what heavy loads are normally handled by the various hoists. Therefore, the applicant is requested to provide a description of the major heavy loads lifted by the FB auxiliary crane and SFCTF, including a list of heavy loads normally handled, their weights, and the hoist capacities. The applicant is requested to provide in the FSAR a list of all heavy load handling equipment and their associated design details in accordance with SRP Section 9.1.5.

As indicated in the response to RAI 9.1.4-15, the applicant indicated that the SFCTF contains heavy load handling equipment that are designed to applicable portions of the ASME NOG-1, "Rules for Construction of Overhead and Gantry Cranes (Top Running Bridge, Multiple Girder)," standards. Since the design details of the single failure proof OHLHS components are not well defined, the staff requests the applicant to define which components of the SFCTF are single failure proof and designed to NOG-1 and to identify which portions of NOG-1 are applicable and update the FSAR accordingly.

Verification of the safety-related portions of the SFCTF should demonstrate that the system is built and will operate in accordance with the FSAR. System ITAAC should be developed based on the latest design of SFCTF (such as, single failure proof design, dual loading components, etc...). The ITAAC should demonstrate that the safety and operating features, credited for safe handling and operation, are included with the design, in order to validate that the design of components and mechanisms have the ability to withstand earthquakes. ITAAC should further verify that interlocks and design

features ensure that the SFCTF will safely handle heavy loads. However, no ITAAC has been provided for the components of the SFCTF and the applicant is requested to include associated ITAAC in the FSAR.

10 CFR 52.47(a)(22) requires the DCD applicant to address operating experience (OpE). Based on portions of the SFCTF being heavy loads and containing SFCTM complex attachments during cask loading, the applicant is requested to address potential causes for error including operator error, rigging failures, lack of adequate inspection and inadequate procedures for heavy load handling to address NUREG-0612 and RIS 2005-25. The staff requests the applicant to address the guidelines of SRP Section 9.1.5.III.3 for safe movement of cask and heavy loads and movement of heavy loads during the SFCTF operations.

In accordance with SRP Section 9.1.5, the following guidelines should be addressed for heavy load handling and reflected in the FSAR:

- a. Safe load paths should be defined for movement of heavy loads to minimize the potential for a load drop on irradiated fuel in the reactor vessel or spent fuel pool or on safe shutdown equipment. Paths should be defined clearly in procedures and equipment layout drawings.
- b. Procedures should cover load handling operations for heavy loads in the proximity of irradiated fuel or safe shutdown equipment. Procedures should include (i) identification of required equipment, (ii) inspection and acceptance criteria, (iii) steps to be followed in handling load, (iv) the safe load path, and (v) other precautions.
- c. Operators should be trained and qualified and conduct themselves in accordance with chapter 2-3.1 of ASME B30.2-2005, "Overhead and Gantry Cranes."
- d. The crane should be inspected, tested, and maintained in accordance with chapter 2-2 of ASME B30.2-2005 "Overhead and Gantry Cranes" prior to use.
- e. Special lifting devices should satisfy the criteria of ANSI N14.6 or, if special lifting devices are not used, slings should be selected to satisfy the criteria of ASME B30.9.
- f. The crane should be designed to the criteria specified in CMAA-70, 2000 and Chapter 2-1 of ASME B30.2-2005.

The applicant is requested to provide in the FSAR a list of all heavy load handling equipment and their associated design details in accordance with SRP 9.1.5, as discussed above.