

## ArevaEPRDCPEm Resource

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**From:** Tesfaye, Getachew  
**Sent:** Thursday, December 08, 2011 5:39 PM  
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**Cc:** Bernal, Sara; Schaaf, Robert; Curran, Gordon; McKenna, Eileen; Hearn, Peter; Segala, John; ArevaEPRDCPEm Resource  
**Subject:** Draft - U.S. EPR Design Certification Application RAI No. 534 (6227), FSAR Ch. 9  
**Attachments:** Draft RAI\_534\_CHPB\_6227.doc

Attached please find draft RAI No. 534 regarding your application for standard design certification of the U.S. EPR. If you have any question or need clarifications regarding this RAI, please let me know as soon as possible, I will have our technical Staff available to discuss them with you.

Please also review the RAI to ensure that we have not inadvertently included proprietary information. If there are any proprietary information, please let me know within the next ten days. If I do not hear from you within the next ten days, I will assume there are none and will make the draft RAI publicly available.

Thanks,  
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Request for Additional Information No. 6227 Revision 3

12/8/2011

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 09.01.04 - Light Load Handling System (Related to Refueling)

Application Section: Section 09.01.04

QUESTIONS for Health Physics Branch (CHPB)

09.01.04-39

OPEN ITEM

GDC 61 states in part that the design of the fuel storage and handling systems shall have suitable shielding for radiation protection and appropriate containment, confinement, and filtering systems. Sufficient shielding provides protection for workers from the spent fuel so that regulatory limits are not exceeded and overexposures do not occur.

10 CFR 20.1406 requires, in part, that each facility be designed so as to minimize contamination of the facility and the environment and to facilitate decommissioning.

- a. In response to RAI 398 Question 9.1.4-18, the applicant provided design features which would serve to protect workers from radiation exposure to spent fuel. These include a non-safety related instrumentation and control system which monitors water level in the cask and penetration, displays alarms in case of an abnormal water level during cask loading, and closes the remote controlled valves of the Spent Fuel Cask Transfer Facility's (SFCTF) fluid systems to stop water loss. However, it is not clear which remote controlled valves are being credited. Provide additional information identifying which SFCTF fluid system valves are closed to stop water loss.
- b. Figure 09.01.04-15-2 provided with RAI 9.1.4-15 response shows content of contaminated water discharging into the vent and drain system. The RAI response also says on page 12 that the lower cover is equipped with a nozzle for drip-off recovery. However, it is not clear to the staff where this drainage or any leakage of the penetration seals is discharged (i.e. floor drain, sump, etc...). Provide more information on the path the contaminated water takes, whether this water receives treatment before discharging to the environment, and how this minimizes contamination.
- c. The applicant provided several examples of design features that demonstrate compliance with the requirements of 10 CFR 20.1406 for the SFCTF. Revise chapter 12 of the FSAR to include these features.
- d. The response to RAI 398 Question 9.1.4-18 states that "all cask loading operations are automatically performed from the SFCTF control room. This includes automatic welding of the biological lid and its covers." It is not clear to the staff where and how the SFCTF performs welding to close the cask. FSAR Section

9.1.4 states that the biological lid flange is bolted to the cask at the cask handling opening station prior to leak-tightness checks and does not mention welding. In addition it is the staff's understanding that only the auxiliary crane has access to the cask at the handling opening station, and that the handling opening station has an open ceiling to allow the crane access. Because welding is required to ensure leak-tightness of the cask, and because the welding work itself can contribute significant occupational dose to the cask loading process, revise the FSAR to describe where and how welding occurs during the cask closing operations. In addition, clarify which lid or cover is welded versus which one may be bolted, and whether the welding or bolting of lids/covers is manual, automatic or remotely operated from the SFCTF.

- e. Provide in the FSAR the location of radiation monitors around the SFCTF (in the loading hall).
- f. Table 9.1.4-15-6 has as an interlock the requirement that the iodine extracting ventilation be operable prior to using the SFCTF. Revise the FSAR to include this information, with a description of how this requirement will be implemented.

09.01.04-40

#### OPEN ITEM

In section 9.1.4 of the FSAR the words "interface requirements" is used to describe design criteria for the spent fuel cask. However using the word "interface" in this context in section 9.1.4 can be misleading since this word has a specific meaning in Tier

1. Replace or delete the word "interface" from section 9.1.4.