

## **ArevaEPRDCPEm Resource**

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**Sent:** Monday, April 27, 2009 3:09 PM  
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**Subject:** Draft - U.S. EPR Design Certification Application RAI No. 219 (2634, 2591), FSAR Ch. 9  
**Attachments:** Draft RAI\_219\_SBPA\_2634\_2591.doc

Attached please find draft RAI No. 219 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. 219 (2634, 2591), Revision 0

4/27/2009

U. S. EPR Standard Design Certification

AREVA NP Inc.

Docket No. 52-020

SRP Section: 09.01.03 - Spent Fuel Pool Cooling and Cleanup System

SRP Section: 09.03.01 - Compressed Air System

Application FSAR Ch. 9

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

09.01.03-12

The applicant responded to RAI 9.1.3-6 in RAI #87 dated 10/9/2008. The applicant stated that the full core offload case is the normal refueling method. However, the staff noted that the FSAR Tier 2, Section 9.1.3.2.3, Fuel Pool Cooling System (FPCS), states a single failure is not considered during infrequent refueling operations that involve a full offload. This section will also need to be revised to be consistent with the RAI response.

The staff requests the applicant to update the FSAR to reflect the correct normal refueling method.

09.01.03-13

In its response to RAI 9.1.3-6 the applicant stated that the calculated boil-off rate is approximately 530 l/m (140 gpm). The applicant also stated that other available make-up sources include the demineralized water distribution system, fire protection system, and internal refueling water storage tank (via the fuel pool purification system). Each of these sources can provide make-up to supplement SFP make-up. The applicant has not provided the available makeup water flow rates of these sources. The staff can not determine that sufficient sources of make-up water are available to maintain SFP level in the unlikely event of loss of both FPCS trains and subsequent SFP boiling.

The staff requests the applicant to provide the makeup water flow rates from the demineralized water distribution system, fire protection system, and internal refueling water storage tank to the spent fuel pool.

09.03.01-6

While reviewing the applicant's proposed FSAR, the staff identified some apparent editorial errors. These errors are:

- 1) FSAR Tier 2 Section 9.3.1.4 states "Refer to Section 14.2 (test abstract #054 and #179) for initial plant startup test program." Test abstract #054 is for "fire water distribution" not the "compressed air system", the reference to #054 should be deleted.
- 2) FSAR Tier 2 Section 9.3.1.4 states "Refer to Section 14.2 (test abstract #054 and #179) for initial plant startup test program." Test abstract #179 is for "Initial fuel load," the reference should be changed to #178 "Pre-Core loss of instrument air"
- 3) FSAR Tier 2 Table 14.3-8 indicates that the Compressed Air System is within the scope of Tier 1; however, the compressed air system is not included in Tier 1.

The staff requests the applicant to correct these items in the FSAR.

#### 09.03.01-7

10 CFR 20.1406(b) requires that applicants for standard design certifications to describe the facility design features for minimizing, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize to the extent practicable the generation of radioactive waste.

FSAR Tier 2 Section 9.3.1.1 indicates the instrument air system is used to provide air to components in the radioactive waste, decontamination and fuel handling systems for nonsafety-related functions. A review of the system P&ID (FSAR Tier 2 Figure 9.3-2) shows insufficient detail to determine if the CAS could be contaminated through interfaces with radioactive system or if provisions are provided for detection of activity and isolation of the system to prevent contamination or a release to the environment. SRP 9.3.1.1.5 "Areas of Review," states that the CAS design is reviewed for the following:

#### **H. The potential for radiological contamination of the ICAS and, if applicable, provisions for detection of leakage from radioactive systems to the ICAS and preclusion of releases to the environment.**

In accordance with the requirements of 10 CFR 20.1406(b), the staff requests the applicant to provide an evaluation of whether the compressed air system could become contaminated through interfaces with radioactive systems. If the system could become contaminated provide methods for detection, collection and control of system leakage to preclude contamination of other systems and preclude its release to the environment.