

**REQUEST FOR ADDITIONAL INFORMATION NO. 131-1609 REVISION 1**

12/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 09.01.03 - Spent Fuel Pool Cooling and Cleanup System  
Application Section: Section 9.1.3

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

09.01.03-1

**RAI 9.1.3-1**

As described in the DCD Tier 2, the spent fuel pool (SFP) is initially filled with water having a boron concentration of approximately 4000 parts per million (ppm). Table 9.1.3-3 reports that the boron concentration is 4000 ppmB. This new unit (ppmB) has not been defined by the applicant. The staff understands that this "new unit" is an editorial error. The staff requests the applicant update the DCD to correct this editorial error or to define this new unit.

09.01.03-2

**RAI 9.1.3-2**

Standard Review Plan (SRP) Section 9.1.3.III.1.F discuss the appropriate design of the makeup system. In DCD Tier 2 Section 9.1.3, the applicant has not provided the basis for the boil-off rate calculations. The applicant does not specify the worst boil-off rates for the different offloading scenarios (normal and full core offloads), the minimum required makeup for the different offloading scenarios, and the flow rate capabilities of the various make up systems for the SFPCS. The staff requests the applicant to update DCD Tier 2 to include this missing information and the basis, assumptions, and results of the spent fuel pool cooling and purification system thermal analysis.

09.01.03-3

**RAI 9.1.3-3**

The US-APWR design provides instrumentation to measure temperature, pressure, flow, radioactivity and water level in the SFP. The temperature, radiation and water levels are equipped with alarms to warn the operators of dangerous conditions. However, the applicant has not proposed to include a low flow rate alarm. This is not consistent with the recommendations of SRP 9.1.3 Section IV.5. The staff requests the applicant to include in the DCD a justification for not having this low flow rate alarm.