

## REQUEST FOR ADDITIONAL INFORMATION 539-4329 REVISION 2

3/2/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 09.04.02 - Spent Fuel Pool Area Ventilation System

Application Section: DCD sections 9.4.2 & 9.4.3

QUESTIONS for Containment and Ventilation Branch 1 (AP1000/EPR Projects) (SPCV)

09.04.02-4

**The staff finds the applicant's conglomerate responses of RAI No. 65-844 Revision 0 Question No.09.04.02-1, RAI 9.4.2-5 and RAI No.328-2436 Revision 1 Question 09.04.02-2 as fundamentally acceptable but notes that the applicant stated that there is no impact on the DCD for either response. Staff believes that the DCD should be revised to be consistent with the responses.**

**Accordingly, the performance of Preoperational Test 14.2.12.1.99 "Auxiliary Building HVAC System Preoperational Test" will not guarantee that the A/B ventilation system will be tested to the area flow rate values reflected in the applicant's responses to these two RAI questions. In particular:**

- 1) Figure 9.4.3-1 has not been revised to reflect that the SFP Pump and HX rooms, as displayed in Figures 1.2-16 and 1.2-24, are not part of the "fuel handling area." These areas are part of the R/B controlled area and are serviced by the A/B HVAC system during normal mode of operation. The R/B controlled area as displayed on this figure should be revised to reflect the existence of the SFP Pump and HX rooms.**
- 2) DCD section 9.4.3 "Auxiliary Building Ventilation System" has not been revised to reflect that ... during normal mode of operation, the total supply airflow from the two 50% A/B HVAC system AHU is 196,000 cfm and the exhaust is 208,000 cfm. Hence, all the radiological controlled areas served by the A/B HVAC system, as identified in Figure 9.4.3-1, are maintained under a constant negative pressure. The fuel handling area is also supplied airflow of 21,800 cfm from the A/B HVAC system AHUs and exhausts airflow of 24,000 cfm from this area.**
- 3) DCD Table 12.2-60 has not been revised to reflect that the supply airflow to each zone is less than the exhaust airflow rates (i.e. Zone V to VI: 1,500 cfm; Radiation Zone IV: 14,000 cfm; and Radiation Zone III : 76,000 cfm.), thus maintaining a negative pressure.**

**The staff requests that the applicant amend the DCD to reflect the information provided to the staff with the applicant's responses to RAI No. 65-844 Revision 0 Question No.09.04.02-1, RAI 9.4.2-5 and RAI No.328-2436 Revision 1 Question 09.04.02-2.**

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### References:

MHI's responses to US-APWR DCD RAI No. 65[-844], October 3, 2008, MHI Ref: UAP-HF-08217, ML082810406

MHI's responses to US-APWR DCD RAI No. 328-2436, May 21, 2009, MHI Ref: UAP-HF-09257, ML091460119

09.04.02-5

**In RAI No. 65-844, Revision 0 Question No. 09.04.02-1, RAI 9.4.2-2 (ML082810406) the applicant's "Answer" concluded with the words:**

"Although by virtue of monitoring airborne radiation in the exhaust duct, and providing an alarm to alert on high radiation, this function enables the system to comply with GDC 60 requirements, this system does not incorporate the clean up system that complies with RG 1.52 or RG 1.140. Therefore, MHI concluded the A/B HVAC system is not required to meet the GDC 60."

**While the staff finds the overall direction of the applicant's response as acceptable, the staff does not agree with the concluding sentence above. It has negative connotations when taken out of context. The staff notes that the applicant correctly concludes in the sentence before that the system (i.e. A/B HVAC system) does comply with GDC 60 by its interface to the to the RG 1.140 cleanup system of the low volume purge system.**

**The staff requests that the applicant amend its response to Question No. 09.04.02-1, RAI 9.4.2-2 to remove the concluding divergent statement.**

**The staff also notes that DCD Revision 2 Tier 2 Table 1.9.2-9 for SRP Section 9.4.2 "Status" reads "Criterion 3 is N/A. (Not air .cleanup system)" and for SRP Section 9.4.3 reads "Criterion 3: Air clean up function is provided for TSC HVAC system only". As documented in the applicant's response to Question No. 09.04.02-1, RAI 9.4.2-2, this status is not accurate. The staff requests that the applicant amend Table 1.9.2-9 to reflect the conclusion of the applicant's response to Question No. 09.04.02-1, RAI 9.4.2-2.**

**The staff notes a similar finding with respect to the first full sentence of page 9.4-15 of Revision 2 of the DCD underlined in the following excerpt:**

"The auxiliary building HVAC system and containment low volume purge system arrangement for the fuel handling area meets the GDC 60 requirements for normal plant operation based on compliance with RG 1.140. However, based on the fuel handling accident analysis (Section 15.7.4) no credit is given for any filtration of released radionuclide's and the calculated offsite dose is well within the guideline dose limit values of 10 CFR 50.34. Therefore, compliance with

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GDC 60 and 61 is not required for the postulated fuel handling accident condition.”

**The staff requests that the wording of this last sentence be revised (or removed) such that it will not produce incorrect connotations when taken out of context.**