

# REQUEST FOR ADDITIONAL INFORMATION 246-2177 REVISION 1

3/2/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 10.04.02 - Main Condenser Evacuation System

Application Section: 10.4.2

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

10.04.02-1

## REQUEST FOR ADDITIONAL INFORMATION

### US-APWR DCD – RAI 10.4.2-1

Tier 2 Section 10.4.2.1.1, "General Description," of the design control document (DCD) states that the non-condensable gases discharged by the main condenser evacuation system (MCES) vacuum pumps are directed to the MCES vent. These non-condensable gases discharged from the MCES are not normally radioactive. However, the DCD states that, in the event of significant primary-to-secondary system leakage, it is possible for the non-condensable gases to become contaminated. These exhaust gases from the MCES are monitored for radioactivity prior to releasing to the environment. Also, in Section 10.4.2.5, "Instrumentation Applications," the DCD states that a radiation detector is provided with an alarm in the MCES vent to monitor the discharge of the vacuum pumps. The DCD further states that upon detection of unacceptable levels of radiation, operating procedures are implemented.

However, in order to conform to General Design Criteria (GDC) 60, as it relate to the control releases of the radioactive materials in the non-condensable gases from the vacuum pump exhaust, the DCD does not provide adequate details regarding its operating procedures identified earlier. Therefore, the staff requests the applicant to provide further information regarding the key elements of these procedures. Further, the staff requests the applicant to provide additional information regarding unacceptable levels of radiation and alarm set points to preclude significant releases of radiation in the MCES vacuum pump effluents discharged to the atmosphere.

Additionally, while it is clear that radiation monitoring is provided, based on a review of DCD Tier 2 Section 10.4.2 and the MCES piping and instrumentation diagram (P&ID) (i.e., Figure 10.4.2-1), it is not clear, where the radiation monitors are located, and also it is not clear how the vacuum pump effluents are routed through. Therefore, the staff requests the applicant to provide further details in the DCD with respect to the location of the detectors and routing of the MCES effluents.