

REQUEST FOR ADDITIONAL INFORMATION 568-4588 REVISION 1

4/13/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 07.05 - Information Systems Important to Safety
Application Section: 7.5 Information Systems Important to Safety

QUESTIONS for Instrumentation, Controls and Electrical Engineering 1 (AP1000/EPR Projects) (ICE1)

07.05-18

Provide a complete explanation of the differences between Table 7.5-3, Post Accident Monitoring System (PAMS) Variables, and all information in 1) Type A variables and those found in Table 3.3.3-1, of NUREG-1431 and 2) Types B through E variables and those found in Regulatory Guide 1.97 Rev. 3, Table 3. (This request was discussed in the public meeting with MHI and the NRC staff on March 16, 2010)

10 CFR Part 50, Appendix A, General Design Criteria (GDC) 13, requires, in part, that instrumentation be provided to monitor variables and systems over their anticipated ranges for accident conditions as appropriate to ensure adequate safety. GDC 64 requires, in part, means for monitoring the reactor containment atmosphere, spaces containing components to recirculate loss-of-coolant accident fluids, effluent discharge paths, and the plant environs for radioactivity that may be released as a result of postulated accidents. One bounding list of PAMS instruments are those identified in the standard technical specifications for operating reactors and the list of PAMS instruments in Regulatory Guide 1.97, Revision 3. As stated in RAI No. 463-3746, Question No. 16-299, Table 7.5-3 provides a list of PAMS variables that has been developed based on a combination of previous revisions of RG 1.97, Japanese domestic and US operation plant experience and EOPs, and known differences between the US-APWR and current operating PWRs. The staff noted that some instrumentation in the US-APWR bounding list were absent when compared to the PAMS instrument lists in the standard technical specifications and Regulatory Guide 1.97, Revision 3. Additionally, there was no basis mentioned for the absent instrumentation. Substantiate to the staff that the list of PAMS variables in Table 7.5-3 is indeed a bounding list and complete. Specifically, identify and explain the reason for the missing instrumentation as compared to Table 3.3.3-1 of NUREG-1431 and Table 3 of Regulatory Guide 1.97, Revision 3.