REQUEST FOR ADDITIONAL INFORMATION 896-6269 REVISION 3

1/30/2012

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.09.06 - Functional Design Qualification and Inservice Testing Programs for Pumps, Valves, and Dynamic Restraints
Application Section: 3.9.6

QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects) (CIB1)

03.09.06-69

US-APWR Design Control Document (DCD) Tier 1 includes Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) for safety-related valves that address their design-basis capability. However, US-APWR DCD Tier 1 does not appear to include ITAAC to verify the functional design and qualification for all safety-related pumps and valves to be capable of performing their intended function for the full range of operating conditions up to design-basis conditions. For such ITAAC, the Design Commitment column should specify that pumps and valves identified in the applicable Tier 1 table will be functionally designed and qualified such that each pump and valve is capable of performing its intended function for a full range of system differential pressure and flow, ambient temperatures, and available voltage (as applicable) under conditions ranging from normal operating to design-basis accident conditions. The Inspections, Tests, and Analyses column should specify that tests or type tests of the pumps and valves listed in the applicable Tier 1 table will be conducted to demonstrate that the pumps and valves function under conditions ranging from normal operating conditions to design-basis accident conditions. The Acceptance Criteria column should specify that a test report exists and concludes that the pumps and valves listed in the applicable Tier 1 table function under conditions ranging from normal operating conditions to design-basis accident conditions. The NRC staff requests that the US-APWR design certification applicant revise the applicable sections of US-APWR DCD Tier 1 to specify ITAAC to verify the functional design and qualification of all safety-related pumps and valves to perform their intended function for a full range of operating conditions up to design-basis conditions.