

# REQUEST FOR ADDITIONAL INFORMATION 373-2826 REVISION 1

5/21/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 14.03.04 - Reactor Systems - Inspections, Tests, Analyses, and Acceptance Criteria  
Application Section: 14.3.4

QUESTIONS for Reactor System, Nuclear Performance and Code Review (SRSB)

14.03.04-36

In Table 2.4.2-5, 10.a.i. Acceptance Criteria, the sum of the relieving capacities of safety valves must exceed  $1.728 \times 10^6$  lb/hr. What is the basis for this number and where is it documented?

14.03.04-37

In Table 2.4.2-5, 10.a.ii. Acceptance Criteria, the safety valve set point is less than or equal to 2485 psig or approximately 2500 psia. In the loss of load accident the safety valves are assumed to open at 2515 psia and be fully open by 2575 psia. What is the valve set point uncertainty value? Is the 2500 psia Acceptance Criteria an open or fully open position pressure?

14.03.04-38

In Table 2.4.4-5, 7.b.i Acceptance Criteria, the injected water volume of the advanced accumulator is required to be greater than  $1326.8 \text{ ft}^3$  during large flow injection. DCD Section 6.3 includes accumulator large flow injection values of 1,307 and  $1342 \text{ ft}^3$ . The  $1326.8 \text{ ft}^3$  bounds the  $1307 \text{ ft}^3$  but does not bound the  $1,342 \text{ ft}^3$ . Explain why the Acceptance Criteria of  $1326.8 \text{ ft}^3$  is conservative and its basis?

14.03.04-39

In Table 2.4.5-5, 8.f. Acceptance Criteria, is the NPSH of 17.9 ft at 3650 gpm determined by the RHR or Containment Spray system need? If RHR, what is the Containment Spray NPSH and flow rate required values? When aligned for Containment Spray what NPSH loss is assumed for degraded sump strainer performance?

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14.03.04-40

Back leakage through check valves used to protect boron dilution of the accumulators is a known industry problem. Significant dilution of the accumulators could lead to recriticality following injection during a LBLOCA. Has back leakage from the RCS to the accumulators been evaluated? If so, is there an ITAAC item which would validate the check valve back leakage assumption?