REQUEST FOR ADDITIONAL INFORMATION 243-2044 REVISION 0

3/2/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 14.02 - Initial Plant Test Program - Design Certification and New License Applicants
Application Section: 14.2 Initial Plant Test Program

QUESTIONS for Quality and Vendor Branch 1 (AP1000/EPR Projects) (CQVP)

14.02-109

RAI 14.02-

RG 1.68, Appendix A, Item 1.n.(9) identifies drain systems as one of the plant features that require initial testing. However, US-APWR DCD Section 14.2 does not identify any test requirements for the equipment and floor drainage system (EFDS) discussed in DCD Section 9.3.3, “Equipment and Floor Drainage Systems.”.

As noted in DCD Table 14A-1 under Item 1.n.(9), the applicant will address RG 1.68 Appendix A Item 1.n.(9) in Section 14.2.12.1.80, “Liquid Waste Management System Preoperational Test.” This test focuses on the liquid waste management system. However, Section 14.2.12.1.80 does not provide a reference to DCD Section 9.3.3 or indicate how such systems will be tested. Please revise Section 14.2.12.1.80 to address testing of equipment and floor drainage systems in accordance with RG 1.68, Appenix A, Item 1.n.(9), or identify where testing of these systems is being addressed in Section 14.2.

(RAI 09.03.03-13)

14.02-110

RAI 14.02-

RG 1.68, Appendix A, Section 1, Subsection h, “Engineered Safety Features,” states the following: “Appropriate tests should also be conducted to verify the functioning of protective devices . . . provided to protect engineered safety features from flooding . . .”

DCD Section 3.4.1.5.2.1 notes that floor drains in the east and west areas of the RCA portion of the R/B are isolated by means of a normally closed valve or check valve in individual drainage pathways prior to connecting into a common sump tank system. This

design is used to prevent flood waters from the east (or west) from passing into the west (or east) side of the building via the floor drain system.

DCD Section 3.4.1.5.2.2 notes that a similar arrangement is used within the NRCA portion of the R/B to preclude cross-flow of floor drain water.

DCD Section 9.3.3.1.1 notes that normally closed manual isolation valves installed in individual drainage pathways of Engineered Safety Feature (ESF) equipment rooms preclude backflow of water into these rooms via the sump system.

However, DCD Section 14.2 does not seem to that address the functionality of check valves and manual valves used to prevent cross-divisional flooding via floor drain and sump systems.

Please identify the test abstract(s) in Section 14.2 that address pre-operational testing for the check valves and manual valves used to prevent cross-divisional flooding via R/B floor drain and sump systems, consistent with RG 1.68, Appendix A, Section 1, Subsection h, or provide a justification for their ommission.

(RAI 3.4.1-21)

14.02-111

RAI 14.02-

MHI responded to this question with an amended response on Dec. 18, 2009. They noted that the programmatic / operational aspects are the responsibility of the COL holder and the existence of COL item 17.5(1). MHI in the RAI response further states that “MHI is committed to full compliance with RG 1.37 relative to the technical aspects of establishing and maintaining cleaning and cleanness control of fluid systems and associated components during preoperational and startup testing.”

This response is acceptable, but the last portion relating to preoperational and startup testing should be included in the DCD (suggest Table 1.9.1-1 and Section 14.2).

(BNL Followup Question to RAI 7, Question 14.02-1, item 4)

14.02-112

RAI 14.02-

The MHI response to 14.02-101 indicated they would revise the response to question 14.02-69 but did not provide the revised wording. Please provide, as it relates to the acceptability of this question. The response to question 14.02-101 rests primarily on calibration and it is not clear what else will be done in the preop. test to functionally test

each subsystem as an integrated subsystem, in order to meet the quoted portions of the RG. RG 1.68, Section C.1 also states that suitable tests should be done to verify performance capabilities. Thus, where possible during the preop. phase, each complete leak detection subsystem should be tested with a measured amount of water to verify proper quantitative operation. Also, the preop. test should document the conversion factors and the results of the conversions from measured quantities to RCS leak rate for each subsystem. Please address.

(BNL Followup Question to 14.02-101)