REQUEST FOR ADDITIONAL INFORMATION 596-4669 REVISION 2

6/8/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 14.03.02 - Structural and Systems Engineering - Inspections, Tests, Analyses, and Acceptance Criteria
Application Section: 14.3

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

14.03.02-15

The NRC staff has reviewed Table 2.2-4, "Structural and Systems Engineering Inspections, Tests, Analyses, and Acceptance Criteria," of Tier 1 of the US-APWR DCD Revision 2. The NRC staff identified that ITAAC #9 does not provide sufficient information to allow the inspector to verify the attributes essential to the performance of the ITAAC. The Design Commitment and the Acceptance Criteria (AC) of the ITAAC do not refer to the actual locations of the flood barriers nor do they refer to a figure or table where the locations of the flood barriers are identified. In SRP 14.3.2, AC-08, for internal flood, it states that ITAAC should require inspections to verify that flood barriers in division walls are at least 2.5 meters above the floor surface. Thus, the NRC staff request that the applicant descripe the actual locations of the as-built divisional flood barriers that are located in both the reactor and the power source buildings.

14.3.2-3

14.03.02-16

The NRC staff has reviewed Table 2.2-4, "Structural and Systems Engineering Inspections, Tests, Analyses, and Acceptance Criteria," of Tier 1 of the DCD Revision 2. The NRC staff identified that ITAAC #10 does not provide sufficient information to allow the inspector to verify the attributes essential to the performance of the ITAAC. The Design Commitment and the Acceptance Criteria (AC) of the ITAAC do not refer to the actual locations of the water-tight doors nor do they refer to a figure or table where the locations of the water-tight doors are identified. In SRP 14.3.2, AC-08, for internal flood, it states that ITAAC should require inspections to verify that water-tight doors in division walls are at least 2.5 meters above the floor surface. Thus, the NRC staff request that the applicant descripe the actual location of the as-built water-tight doors that are located in the reactor building.

14.3.2-4

14.03.02-17

The NRC staff has reviewed Table 2.2-4, "Structural and Systems Engineering Inspections, Tests, Analyses, and Acceptance Criteria," of Tier 1 of the DCD Revision 2.

The NRC staff identified that ITAAC #11 exhibits a lack of specificity to permit defined and inspectable verification due to the use of the generic term “acceptable level.” The Acceptance Criteria (AC) of the ITAAC does not refer to the actual level of the penetrations in the divisional walls. The ITAAC should be objective, so that the inspector does not have to interpret the information subjectively. In SRP 14.3.2, AC-08, for internal flood, it states that ITAAC should require inspections to verify that penetrations in division walls are at least 2.5 meters above the floor surface. Thus, the NRC staff request that the applicant describe the actual level of the as-built penetrations in the divisional walls of both the reactor and the power source buildings.

14.3.2-5

14.03.02-18

The NRC staff has reviewed Table 2.2-4, “Structural and Systems Engineering Inspections, Tests, Analyses, and Acceptance Criteria,” of Tier 1 of the DCD Revision 2. The NRC staff identified that ITAAC #12 exhibits a lack of specificity to permit defined and inspectable verification due to the use of unquantifiable term “sufficient.” The Acceptance Criteria (AC) of the ITAAC does not refer to the actual location of the safety-related electrical, instrumentation, and control equipments nor does it refer to a figure or table where the locations of the safety-related electrical, instrumentation, and equipments are identified. The ITAAC should be sufficiently defined, so that the inspector does not have to interpret the information subjectively. In SRP 14.3.2, AC-08, for internal flood, it states that ITAAC should require inspections to verify that safety-related electrical, instrumentation, and control equipment are located at least 20 cm above the floor surface. Thus, the NRC staff request that the applicant provide a description of the actual location for the as-built safety-related electrical, instrumentation, and control equipment that are located above the floor surface of the reactor and the power source buildings.

14.3.2-6

14.03.02-19

The NRC staff has reviewed Table 2.2-4, “Structural and Systems Engineering Inspections, Tests, Analyses, and Acceptance Criteria,” of Tier 1 of the DCD Revision 2. The NRC staff identified that for ITAAC #20, the applicant listed Section 2.4.1 as a reference for the Inspections, Tests, Analyses (ITA) and the Acceptance Criteria (AC) column that demonstrates the Design Commitment has been met. The reference provided is inaccurate. The staff requests that the applicant provide the correct reference.

14.3.2-7