REQUEST FOR ADDITIONAL INFORMATION 580-4584 REVISION 2

5/10/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.02.02 - System Quality Group Classification
Application Section: 3.2.2

QUESTIONS for Engineering Mechanics Branch 2 (ESBWR/ABWR Projects) (EMB2)

03.02.02-10

The response to RAI 03.02.02-3 deleted reference to a graded QA approach, but did not define the process or what special treatment applies to nonsafety-related risk significant SSCs. Clarify the process and what unique classification and special treatment (including any supplemental design requirements and quality assurance measures) apply to nonsafety-related, risk-significant SSCs in order to distinguish them from nonsafety-related SSCs having no risk significance. For example, if the RTNSS/PRA process and D-RAP will be used to develop special treatment requirements to ensure reliability assumed in the PRA, the applicant should so clarify and identify how and when those requirements will be verified.

Reference: MHI's Response to US-APWR DCD RAI No. 276-2043; MHI Ref: UAP-HF-09232; Dated May 8, 2009; ML091320435.

03.02.02-11

The responses to RAIs 03.02.02-5, 03.02.02-6, and 03.02.02-8 include specific editions of codes and standards applicable to a summary of mechanical components and stated that additional codes and standards or later editions of codes and standards will be applied as required during the development of detailed design specifications. However, the DCD was not updated to include these codes and standards and, the response to RAI 03.02.02-9, refers to the design basis for codes and standards applicable to Equipment Class 5, rather than identifing the specific codes and standards. Identify the process, including updating the DCD, that will be used to verify that the latest editions of codes and standards endorsed by the NRC will be applied to the design and procurement of mechanical components.

References:
MHI's Response to US-APWR DCD RAI No. 276-2043; MHI Ref: UAP-HF-09195; Dated April 24, 2009; ML091180436. [Questions 1, 2, 4, and 9]
MHI's Response to US-APWR DCD RAI No. 276-2043; MHI Ref: UAP-HF-09232; Dated May 8, 2009; ML091320435. [Questions 3 and 5-8]

03.02.02-12

The DCD and RAI responses do not appear to include supplemental requirements (special treatment) for underground piping systems and it could not be determined if non-metallic piping would be used in important to safety underground applications. Clarify if any non-metallic piping or lined piping will be used in any ASME class piping or nonsafety-related but important-to-safety piping and, if so, specify the applications, associated quality group classifications, quality assurance requirements, supplemental requirements and codes/standards used.

03.02.02-13

DCD Table 3.2-2 identifies the CWS (item 59) as equipment class 9 with no quality group. The applicant is requested to clarify why the CWS is not considered Equipment Class 4 (Quality Group D) to be consistent with quality group information in SRP 10.4.5. The applicant is also requested to verify that all systems that may contain radioactivity are appropriately classified consistent with Quality Groups A, B, C, or D and designed to RG 1.143.

03.02.02-14

The response to RAI 03.02.02-7 references the response to RAI 03.02.01-12 regarding the application of the terms "safety-related" and "important to safety" with respect to the seismic classification of SSCs in satisfying compliance with GDC 2 and stated that, “Additional quality standards are applied to non safety-related SSCs commensurate with the functions of the SSC and contribution to plant safety.” However, neither response mentions risk-significant SSCs or the PRA process as it is used to classify nonsafety-related, risk-significant SSCs with respect to Quality Group or make any changes to the DCD regarding use of these terms. Clarify to what extent SSCs that are nonsafety-related but are important-to-safety are identified and classified so that they are designed to appropriate quality standards. Also, the term “safety-related” should be replaced with the term “important to safety” in DCD 3.2.2 and 3.1.1.1 in order to satisfy GDC 1.

03.02.02-15

Based on the responses to RAI 287-2041, questions 03.02.01-13 and 03.02.01-14 and DCD Section 14.3, it is understood that the applicant will apply ITAAC for important to safety seismic Category II SSCs. Confirm that quality group classifications for all important-to-safety SSCs will be verified and identify the specific ITAAC used for these verifications.

References:

MHI's Response to US-APWR DCD RAI No. 287-2041; MHI Ref: UAP-HF-09223; Dated May 8, 2009; ML091320436.

MHI's Response to US-APWR DCD RAI No. 287-2041; MHI Ref: UAP-HF-09244; Dated May 21, 2009; ML091480481.

03.02.02-16

The response to RAI 276-2043, question 03.02.02-8, referenced the MHI design completion plans in their letter dated July 14, 2008. Other than design specifications and stress reports, the response did not identify any other design basis information on quality group classification. Clarify if any additional design basis documents will be available for audit to establish the basis for the individual quality group classifications to enable the classifications to be validated. For example, supporting design basis documents that supplement the design specifications and can be used to verify the safety function for individual classifications may include documents such as a “Q” list, detailed P&IDs, system summary documents, a RTNSS requirements document and procurement specifications.

Reference: MHI's Response to US-APWR DCD RAI No. 276-2043; MHI Ref: UAP-HF-09232; Dated May 8, 2009; ML091320435.