

# REQUEST FOR ADDITIONAL INFORMATION 276-2043 REVISION 1

3/11/2009

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)

03.02.02-1

DCD Subsection 3.2.2.2 states an exclusion “pursuant to paragraph I(2)...” , whereas RG 1.26, part 1, Quality Group B, which 3.2.2.2 commits to, states “pursuant to paragraph c(2).” Clarify if this is a typographical error and the correct reference is c(2).

03.02.02-2

DCD Subsection 3.2.2.3 states that Equipment Class 3 is equivalent to RG 1.26, NRC Quality Group C. However, if equivalent, then RG 1.26, section 2, Quality Group C, paragraph (d) is only partially addressed. Discuss where the requirements regarding single component failures for systems located in Seismic Category I structures are addressed or why these requirements are not applicable.

03.02.02-3

DCD Subsection 3.2.2.4 states for Class 4 components, the requirements for RG 1.26, Quality Group D will be applied. DCD Table 3.2-3 contains footnote 4 that states a graded approach to quality assurance of Class 4 components will be applied. This footnote references a description of a graded approach as provided in Chapter 17, but no mention of “graded approach” is found in Chapter 17. Describe how this proposed graded approach is consistent with the quality requirements in RG 1.26 for Quality Group D components and any applicable special treatment requirements.

This same footnote 4 is also referenced to attribute a graded approach to Equipment Class 5 components. Per Section 3.2.2.5, components in Equipment Class 5 are non safety-related components that are not part of the RWMS, are not within the purview of RG 1.26, and to which Appendix B requirement do not apply. Provide further information on how this “graded approach” is to be applied to non-safety components classified as Equipment Class 5.

03.02.02-4

DCD Subsection 3.2.2.5, Equipment Class 6, states that codes and standards defined in RG 1.143, Table 1 are applied to Class 6 component, implying only codes and standards in Table 1 are being used. This same language also appears in Chapter 11. There is

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additional design guidance provided in RG 1.143 other than those provided in Table 1. However, there are other parts of the DCD that imply commitment to RG 1.143 as a whole. Clarify if Equipment Class 6 components will be subject to all appropriate design guidance of 1.143 or only those specified in Table 1 of 1.143.

### 03.02.02-5

10 CFR 50.55a identifies specific editions of certain codes to be applied and SECY-93-087 identifies that the latest codes and standards endorsed by the NRC are to be used or to review editions on a case-by-case basis. DCD Table 1.9.5-2 for treatment of SECY-93-087 "requirements", Issue Number II.A, references DCD 3.2.4. In the referenced Subsection 3.2.4 of the DCD, editions of codes and standards are either omitted or are not current. Clarify how this 10 CFR 50.55a requirement and SECY position is fulfilled.

### 03.02.02-6

DCD Table 3.2-3 Note 5 states that codes and standards defined in design basis are applied. For example, Equipment Class 5 references note 5 for the codes and standards. Clarify what codes and standards including their editions will be used when note 5 is referenced.

### 03.02.02-7

GDC 1 of 10 CFR Part 50, Appendix A states in part that structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance of the safety functions to be performed. Section 3.1.1.1.1 of the DCD uses the term safety-related and Section 3.2.2 uses both terms to identify the SSCs that must be designed to satisfy the requirements of GDC 1. Refer to definitions in 10 CFR 50, memo to NRC Staff from Harold Denton, dated 11/20/81, (accession numbers 8201200446 and 8201200448) and ANS 58.14 regarding application of these terms. Clarify the application of the terms "safety-related" and "important to safety" to the quality group classification of SSCs and compliance with GDC 1. Also clarify to what extent those SSCs that are important to safety that are not considered safety-related are classified so that they are designed to appropriate quality standards.

### 03.02.02-8

10 CFR Part 52.47 identifies that the Commission will require prior to design certification, that information normally contained in certain procurement specifications and construction and installation specifications be completed and available for audit. The applicant is requested to clarify if the design basis information on quality group classification for all important to safety SSCs within the scope of the DCD, including structures, is included in specifications and if this information is now available for audit.

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03.02.02-9

DCD Table 3.2-2 page 3.2-44 identifies Equipment Class 5 for two systems and RG 1.26 is referenced for applicable codes and standards. RG 1.26 does not identify codes and standards for Equipment Class 5 systems that are not one of the four quality groups. Identify the applicable codes and standards for Equipment Class 5. Correct Table 3.2-2 as necessary.