

REQUEST FOR ADDITIONAL INFORMATION 724-5524 REVISION 2

3/21/2011

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)

03.02.02-20

The staff is concerned that the scope of SSCs included in DCD Table 3.2-2 may not be entirely complete and previous Section 3.2 RAI responses may not have addressed the completeness in the scope of this table. This concern includes the response to design issues associated with the permanent cavity seal (PCS) addressed in RAI 507-3993 Revision 2 Question 09.01.04-16. In the applicant's response, the classification for the PCS was documented as EC-4 with QG D and seismic category (SC) II. A revision to section 28 of Table 3.2-2 was proposed to add this information.

Since QG D is limited to nonsafety-related SSCs, the Staff is concerned that QG D may not be appropriate for the PCS without further technical justification. Additional information is needed to evaluate the PCS and determine if the PCS performs a safety-related function. In particular the following information is needed.

Clarify if the PCS is a mechanical or a structural component and describe the extent that codes and standards are applied.

- If the PCS is considered a structural component, Quality Group should not apply.
- If the PCS is considered a mechanical component, a description of the extent of certification and stamping should be provided, including an explanation as to why this component is classified as QG D rather than QG C. If designed to ASME Section III, QG C would be more consistent with the classification of other mechanical components in the refueling system.

The basis for the classification as QG D has not been justified. In particular the following information is needed for evaluation of this classification.

• Establish if the PCS is defined as safety-related or important to safety using the definitions in 10 CFR 50 and Appendix A.

- Describe the safety function and the basis for the designation as safety-related, important to safety or nonsafety-related.
- Since the seal is classified as Seismic Category II rather than Seismic Category I, explain why the seal would remain functional during and after a seismic event.
- If the seal is considered safety-related, the basis for the classification as QG D should be described.

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- If the seal is defined as nonsafety-related, but is important to safety concerning the risk to health and safety of the public, describe the evaluation of risk-significance.
- If the seal is not postulated to fail, justify why a single failure (rupture or crack) is not postulated to occur.
- If the seal could fail or leak as a postulated passive failure during refueling operations explain why the seal failure will not result in excess off-site doses.