
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

**US-APWR Design Certification
Mitsubishi Heavy Industries
Docket No. 52-021**

RAI NO.: NO. 660-5134 REVISION 2
SRP SECTION: 03.07.02 – Seismic System Analysis
APPLICATION SECTION: 3.7.2
DATE OF RAI ISSUE: 11/15/10

QUESTION NO. RAI 03.07.02-36 (03.07.02-63):

This request for additional information (RAI) is necessary for the staff to determine if the application meets the requirements of 10 CFR Part 50, Appendix A, General Design Criteria 2; 10 CFR Part 50 Appendix S; and 10 CFR Part 100; as well as the guidance in NUREG-0800, 'Standard Review Plan for the Review of Safety Analysis for Nuclear Power Plants,' Chapter 3.7.2, "Seismic System Analysis."

MHI's Topical Report, MUAP-10006 (R0), contains numerous in-structure response spectra (ISRS), all of which are produced at 5% spectral damping. The ISRS at damping values of other than 5% are generally needed for the design of SSCs of the Standard Plant. Discuss the procedure and the basis for generating ISRS at damping values other than 5%.

ANSWER:

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-10355 (ML110040071).

The procedure and basis for generating in-structure response spectra (ISRS) at damping values other than 5% are the same as used for generating ISRS at 5% damping. The ISRS envelope the spectra obtained from the site-independent soil-structure interaction and structure-soil-structure interaction (SSSI) analyses for all generic subgrade conditions for both the full (uncracked concrete) stiffness and reduced (cracked concrete) stiffness models. This envelope is then broadened by +/- 15% of the spectral frequency. DCD Subsection 3.7.2.5 and Technical Report MUAP-10006, Rev. 3, Section 03.3.6 provides further descriptions of the process for development of ISRS.

Impact on DCD

There is no impact on the DCD.

Impact on R-COLA

There is no impact on the R-COLA.

Impact on S-COLA

There is no impact on the S-COLA.

Impact on PRA

There is no impact on the PRA.

Impact on Technical/Topical Report

There is no impact on a Technical/Topical Report.

This completes MHI's response to the NRC's question.