
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

03/22/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 766-5819 REVISION 3
SRP SECTION: 03.07.02 – Seismic System Analysis
APPLICATION SECTION: 3.7.2
DATE OF RAI ISSUE: 06/09/2011

QUESTION NO. RAI 03.07.02-51:

In MUAP-11002 (R0) Subsection 7.1.1, "Approaches for Developing Maximum Relative Displacement," the applicant lists steps for calculating relative displacements using the ACS SASSI RELDISP module. The methodology and steps listed here for determining the relative displacements for the Turbine Island appear to be different than the methodology and steps used to determine the relative displacements for the R/B and PS/B's as described in Subsection 4.2 of MUAP-10006 (R1). The applicant is requested to describe in detail the differences in the approaches, which approach is expected to provide more conservative predictions, and the potential effects on the conclusions resulting from using different approaches.

ANSWER:

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-11393, dated November 16, 2011 (ML11326A130).

The R/B and PS/Bs are now founded on a common basemat as described in MUAP-10006 Rev. 3, and now designated as the R/B Complex.

Subsection 4.3.1 of Technical Report MUAP-11002 Rev. 2, has been revised to indicate that the reference node is relative to the free-field. Subsection 03.4.4 of Technical Report MUAP-10006 Rev. 3 indicates that the relative displacements of the R/B complex were also determined relative to the free-field.

By computing displacement relative to the free-field as opposed to relative to a point on the bottom of the substructure or basemat, conservative displacements are calculated because the additional displacement of the substructure is included in the relative displacement.

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.