RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 776-5851 REVISION 3**
SRP SECTION:	**03.07.02 – Seismic Systems Analysis**
APPLICATION SECTION:	**3.7.2**
DATE OF RAI ISSUE:	**06/15/11**

QUESTION NO. RAI 03.07.02-71:

In Subsection 2.3.2.1of MUAP-11001 (R0), "Reduction of Stiffness for Concrete Cracking," the paragraph (page 7) states, "The elastic modulus and wall/slab thicknesses of the shell elements are modified so that the out-of-plane flexural stiffness is reduced by 50% while the in-plane shear and axial stiffness remains unchanged."

The Applicant is requested to provide technical basis and justification for not reducing the shear stiffness.

ANSWER:

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-11262 (ML11228A129).

Technical Report MUAP-11001 has been superseded and the relevant information incorporated into Technical Report MUAP-10006, Rev. 3. The reactor building (R/B), prestressed concrete containment vessel (PCCV), containment internal structure (CIS), east and west power source buildings (PS/Bs), auxiliary building (A/B), and essential service water pipe chase (ESWPC) are now structurally integrated and supported on a common basemat to form the R/B complex. Technical Report MUAP-10006, Rev. 3, presents the information relevant to the added A/B and PS/Bs as well as the other buildings that make up the R/B complex.

Table 02.4.1.1.3-1 of Technical Report MUAP-10006, Rev. 3 summarizes the percent of stiffness reduction and damping values used for the different structural components in the bounding analyses described in Sections 02.3.3 and 02.4.2 of the same report. The stiffness adjustments to account for cracking are applied to the out-of-plane flexural, in-plane shear, and axial stiffnesses of shell elements as described in Section 02.4.1.1.7 of Technical Report MUAP-10006 Rev. 3.

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.