
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No.52-021

RAI NO.: NO. 852-6003 REVISION 3
SRP SECTION: 03.07.02 – Seismic System Analysis
APPLICATION SECTION: 3.7.2
DATE OF RAI ISSUE: 10/24/11

QUESTION NO. RAI 03.07.02-124:

In Section 5.3 of MUAP-10001(R3), "Development of the R/B Complex Dynamic FE Model," the 2nd sentence in the 4th paragraph (Page 5-80) states: "Wall shell elements are extended into the basemat solid elements to ensure a proper transfer of bending moment between them."

The applicant is requested to describe the criteria used to achieve the assurance of fully transferring the bending moments.

ANSWER:

Technical Report MUAP-10001, Rev. 3 has been superseded and its relevant information has been incorporated into Technical Report MUAP-10006, Rev. 3. Section 5.3.1 of Technical Report MUAP-10001, Rev. 3 is now Section 02.5.1.1 in Technical Report MUAP-10006, Rev. 3.

As discussed in Section 02.4.1.1.1 of Technical Report MUAP-10006, Rev. 3, ACS SASSI solid element nodes have only three translational degrees of freedom and therefore, cannot transfer moments from shell or beam elements. To enable the transfer of bending moments from the walls modeled by shell elements to the basemat and massive concrete sections of the CIS modeled by solid elements, the shell elements are extended into or overlaid on the solid elements as shown in Figure 02.4.1.1.1-5 of Technical Report MUAP-10006.

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 the Technical/Topical Report.

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