

---

---

**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 03.07.02-59:**

In MUAP-11002 (R0) Subsection 6.1, "Model Validation Methodology," (page 19) the 2<sup>nd</sup> bullet in the 3<sup>rd</sup> paragraph states "Modal analysis to compare the dominant natural frequencies and mass participation factors of the structures between the fine and coarse mesh models."  
The staff noted that Tables 6-4 to 6-6 of MUAP-11002 (R0) present the modal properties for the fine mesh GT STRUDL model in x, y, and z directions, respectively. The staff, however, did not find any corresponding tables for the coarse mesh model. The applicant is requested to tabulate the corresponding data for the coarse mesh model. Also, the applicant is requested to expand the tables for the coarse and fine mesh models to include all the vibration modes of which the frequencies are less than 50 Hz and present the cumulative modal participating mass in percentage of the total mass.

---

**ANSWER:**

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

The additional data for the coarse mesh model and the additional vibration modes for both the coarse and fine mesh models are included in Tables 3.1.2-1 through 3.1.2-12 and Figures 3.1.2-1, 3.1.2-2, and 3.1.2-3 of Technical Report MUAP-11002 Rev. 2.

**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.