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## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

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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

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**QUESTION NO. RAI 03.07.02-69:**

In Subsection 2.2 of the MUAP-11001 (R0), "Material Properties," (page 6) the last sentence states "The critical damping ratio of 7% is for bolted steel structures at SSE stress level per Regulatory Guide 1.61(Reference 7.13)."

The staff noticed that 7% is allowed only if "Bolted Steel with Bearing Connections," are used. Otherwise, damping is limited to 4% (e.g., welded or bolted with friction joints). The Applicant is requested to provide a confirmatory statement in the Report that "Bolted Steel with Bearing Connections" are used.

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**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Technical Report MUAP-11001 has been superseded and the relevant information incorporated into Technical Report MUAP-10006, Rev. 3.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.

Tables 02.4.1.1.1-2 and 02.4.1.1.3-1 of Technical Report MUAP-10006, Rev. 3 show that the operating-basis earthquake and safe-shutdown earthquake damping values of steel structures are 3% and 4%, respectively, for the soil-structure interaction analyses of the R/B complex per RG 1.61. "Bolted Steel with Bearing Connections" are not used.

**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.

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