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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. 852-6003 REVISION 3  
**SRP SECTION:** 03.07.02 – Seismic System Analysis  
**APPLICATION SECTION:** 3.7.2  
**DATE OF RAI ISSUE:** 10/24/11

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**QUESTION NO. RAI 03.07.02-133:**

In Figure 5.3.3.1.1-4 of MUAP-10001(R3), “R/B 1g Static Analysis Results – NS Direction (X) at Location H,” (Page 5-106) the two curves shown in the figure bend to the left at the top.

The curves shown in the figure represent the structural displacement in the x direction subjected to a 1g static force. Since the 1g forces are all applied in the same direction the displacement curves should not bend to the left on the top. The applicant is requested to make appropriate corrections to the structural model or provide a technical basis and justification for these inconsistent displacements in Figure 5.3.3.1.1-4.

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**ANSWER:**

Technical Report MUAP-10006, Rev. 3 incorporates and updates the modeling and analysis methodology, and results from Technical Report MUAP-10001. Figure 5.3.3.1.1-4 of Technical Report MUAP-10001, Rev. 3 is now Figure 02.5.1.3.1.1-5 of Technical Report MUAP-10006, Rev. 3. Figure 02.5.1.3.1.1-5 shows the shapes of the displacement curves for location H at the north wall of the fuel handling area in the reactor building, for a 1g static load in the north-south direction. The displacement shapes at the top of the north wall are caused by the stiffness contributed by the fuel handling area roof diaphragm. The roof diaphragm decreases the out-of-plane displacement of the north wall at its top elevation, with respect to its displacement at elevations immediately below the roof diaphragm.

An explanatory note regarding the displacements is provided below Figure 02.5.1.3.1.1-5 of Technical Report MUAP-10006, Rev. 3. Figure 1 and Figure 2 below present views which show the local out-of-plane deflection experienced by the north wall of the fuel handling area, as explained above.



Figure 1 - Isometric View (Deformed vs. Undeformed Deflection)



Figure 2 - East Elevation (Deformed vs. Undeformed Deflection)

**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.

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