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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. 212-1950 REVISION 1  
**SRP SECTION:** 03.07.02 – Seismic System Analysis  
**APPLICATION SECTION:** 3.7.2  
**DATE OF RAI ISSUE:** 02/25/09

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**QUESTION NO. RAI 03.07.02-01 (03.07.02-15):**

The SRP acceptance criteria 3.7.2 II.9 states that the effects of potential concrete cracking on structural stiffness should be specifically addressed when determining the effects of parameter variations on floor response spectra. Describe how and where the effect of potential concrete cracking is accounted for in the determination of floor spectra.

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**ANSWER:**

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-09188 (ML091320443).

Technical Report MUAP-10006, Rev. 3, outlines the approach for the seismic analyses of the US-APWR reactor building (R/B) complex. Consideration of concrete cracking in the dynamic analysis is discussed in Section 02.3.3. Separate structure-soil interaction (SSI) cases are run assuming both cracked and uncracked conditions. The effects of potential concrete cracking are accounted for in the determination of floor spectra, which envelope the results of both analyses.

**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.