REQUEST FOR ADDITIONAL INFORMATION 632-5041 REVISION 0

9/15/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.07.04 - Seismic Instrumentation
Application Section: 3.7.4

QUESTIONS for Geosciences and Geotechnical Engineering Branch 2 (RGS2)

03.07.04-4

RAI 03.07.04-4
In the previous RAI response, RAI 03.07.04-3, MHI stated that it would be left to the COL applicant to verify the site-specific applicability of the standard plant monitors described in Subsection 3.7.4.2 and to determine if there is a need for free-field instrumentation as required by COL Item 3.7(16). Although the US APWR CSDRS is defined as a free surface ground motion referenced at the foundation level (equivalent to SSE), free-field seismic instrumentation at the ground surface is needed to understand ground motions before they are influenced by soil-structure interaction and other factors. Further, current site-response analysis only considers vertical propagating seismic waves with a one-dimension model, and some potential site-specific ground motion effects may occur when seismic waves propagate to a site. Installing free-field seismic instrumentation at the ground surface enables the detection of those site-specific phenomena. Using free field surface instrumentation coupling with in-structure instrumentation to monitor ground motion is a common industry practice, especially for critical facilities. Based on above, please modify COL information Item 16 to reflect the need for free-field seismic monitors at the ground surface. This request is in accordance with 10 CFR 100.23.
Reference: MHI response to RAI 538-4320, dated 3/30/2010, ML100950102