
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 850-6002 REVISION 3
SRP SECTION: 03.07.01 – Seismic Design Parameters
APPLICATION SECTION: 3.7.1
DATE OF RAI ISSUE: 10/21/11

QUESTION NO. RAI 03.07.01-29:

Figure 5.2.1 of MUAP-10001(R3), shows that two soil sites with depth to hard rock of greater than 500' and two rock sites with depth to hard rock of 350' and 100' have been selected. Considering that the depth of the plant foundation is about 50', the distance from bottom of foundation to hard rock is greater than 450', 300' and 50'. These depths to hard rock would correspond approximately to frequencies of 2 Hz, 3 Hz and 20 Hz, respectively, assuming Vs is 1000 ft/sec. Considering the typical frequency range of interest for SSI effects, the applicant is requested to explain why an additional profile with an intermediate depth to hard rock (e.g., 150') was not selected.

ANSWER:

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-11417 (ML11339A013).

Technical Report MUAP-10001, Rev. 3 has been superseded and its relevant information has been incorporated into Technical Report MUAP-10006, Rev. 3.

The US-APWR seismic response analysis currently uses six generic subgrade profiles, developed to cover a wide range of site conditions from soft soil to hard rock that may exist across the central and eastern United States. These six generic profiles provide sufficient diversity to allow the development of a standardized design that can be constructed at a large number of candidate plant sites.

The development and implementation of the soil profiles as described in Technical Report MUAP-10006, Rev. 3, Sections 01.3.2, 01.4.2, and 01.5.2 meet the guidelines of SRP 3.7.1.II.3 by providing a detailed description of the supporting media used in the analysis and design of seismic category I structures. This information is summarized in DCD Section 3.7.1.3.

Variations in actual site conditions, such as depth or other site-specific attribute are addressed by US-APWR DCD COL Item 3.7(25), which requires a site-specific SSI evaluation to confirm that site-specific effects are enveloped by the standard design. If the site-specific conditions result in

responses not enveloped by the standard design, COL Applicants can undertake remediation measures of the site soil conditions and/or address the site conditions as a Departure.

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.