
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 798-5876 REVISION 3
SRP SECTION: 03.07.01 – Seismic Design Parameters
APPLICATION SECTION: 3.7.1
DATE OF RAI ISSUE: 08/05/11

QUESTION NO. RAI 03.07.01-15:

In Subsection 3.7.1.1 of DCD (R3), "Design Ground Motion", the first paragraph under the subtitle "Duration of Motion" (page 3.7-8) states, "The duration of motion has been determined using random phase characteristics."

The Applicant is requested to explain how the duration of motion is determined using random phase characteristics, and describe how this approach is consistent with the acceptance criteria of SRP 3.7.1.II.1 a. If the approach is not consistent with SRP guidelines, the Applicant should provide technical justification for the selected approach.

ANSWER:

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-11296 (ML11252B126).

Subsection 3.7.1.1 of the DCD has been rewritten to discuss the development of artificial time histories using SRP 3.7.1 Option 1 Approach 1 and no longer contains the sentence mentioned above. This referenced sentence was intended to acknowledge consideration of a long enough time history. The design basis time histories are described and reported in Technical Report MUAP-10006, Rev. 3, and now are developed based on seed recorded time histories of real earthquake motions. DCD Section 3.7.1.1 now includes the total duration (22.08 seconds), the strong motion duration (7.868, 9.543 and 10.35 seconds for North-South, East-West and vertical directions, respectively) and includes the ratios V/A and AD/V^2 (A , V , D are peak ground acceleration, ground velocity and ground displacement, respectively). See Section 01.4.1.3 of Technical Report MUAP-10006, Rev. 3 for a description of the development of the design basis time histories to the requirements of SRP 3.7.1 Option 1 Approach 1.

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.