
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 776-5851 REVISION 3
SRP SECTION: 03.07.02 – Seismic Systems Analysis
APPLICATION SECTION: 3.7.2
DATE OF RAI ISSUE: 06/15/11

QUESTION NO. RAI 03.07.02-68:

In Section 1.0 of the MUAP-11001 (R0), the last sentence in the 4th paragraph states, “The certified seismic design response spectra (CSDRS) and the CSDRS compatible time histories that were developed in Section 5.2 of MHI TR MUAP-10001 (Reference 7.1) define the ground motion for the standard design of the A/B.”

The staff is unable to determine where the CSDRS is applied to the A/B structure in conducting the seismic responses described in this Report. The Applicant is requested to specify where the CSDRS is located for the standard design of the A/B.

ANSWER:

This answer revises and replaces the previous MHI answer that was transmitted by letter UAP-HF-11262 (ML11228A129).

Technical Report MUAP-11001, Rev. 0, is superseded by Technical Report MUAP-10006, Rev. 3. The reactor building (R/B), prestressed concrete containment vessel (PCCV), containment internal structure, east and west power source buildings, auxiliary building (A/B), and essential service water pipe chase (ESWPC) are now structurally integrated and supported on a combined basemat to form the R/B complex. Technical Report MUAP-10006, Rev. 3, presents the information relevant to the A/B as well as the other buildings that make up the R/B complex.

The certified seismic design response spectra (CSDRS) compatible time histories are applied at the nominal bottom elevation of the R/B complex. The CSDRS compatible time history components are determined from a site response analysis, where the CSDRS time history components are applied as within-column motion to each of the soil columns representing the six standard plant generic profiles. The resulting CSDRS compatible time history components are then input to the design-basis soil-structure interaction (SSI) analyses with the control point located at the nominal bottom elevation of the common basemat. For the structure-soil-structure interaction analyses of the R/B complex and Turbine Building, the time history components are input at the control point located at the nominal bottom elevation of the deepest basemat, which is the R/B complex. The development and application of the CSDRS compatible time history input control motions in the design-basis SSI and structure-soil-structure interaction analyses is further discussed in Section 03.3.2 of Technical Report MUAP-10006, Rev. 3.

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.