RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

1/31/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 856-6094 REVISION 3**
SRP SECTION:	**03.07.02 – Seismic System Analysis**
APPLICATION SECTION:	**3.7.2**
DATE OF RAI ISSUE:	**10/24/11**

QUESTION NO. RAI 03.07.02-165:

In Section 2.0 of MUAP-11011 (R0), "Description of the US-APWR Standard Plant Layout," the second paragraph (Page 4) states, "If the assessment in the initial phase indicates that the SSSI effects among the R/B Complex, West PS/B, and A/B are significant (based on guidelines provided in Sections 3.3.1 and 3.3.2 in this report), then further assessment of SSSI effects among the R/B Complex, T/B, and East and West PS/B will be made in the subsequent phases, as indicated in Table1.0-1."

The staff finds the logic presented in the above quoted sentence as not convincing. The applicant did not provide rationale for including the auxiliary building (A/B) in the initial phase but omitting it from consideration in the subsequent phases. The applicant is requested to provide technical basis to justify that the presence of A/B has a negligible SSSI effect on the design basis of standard plant SSCs in these later phases. Otherwise, the applicant is requested to include the A/B in the subsequent phases.

ANSWER:

Technical Report MUAP-11011, Rev. 0 has been superseded and the relevant information on the structure-soil-structure interaction (SSSI) analysis methodology has been incorporated into Technical Report MUAP-10006, Rev. 3.

The seismic design basis for the US-APWR has been updated to perform soil-structure interaction (SSI) analyses using dynamic finite element (FE) models of the reactor building (R/B) complex, which now consists of the R/B, prestressed concrete containment vessel, containment internal structures, east power source building (PS/B), west PS/B, auxiliary building, and essential service water pipe chase supported on a combined basemat.

The SSSI analyses no longer use a phased approach. The SSSI analysis evaluates the effect of the Turbine Building on the seismic category I R/B complex, as documented in Subsection 03.3.4.2 of Technical Report MUAP-10006, Rev. 3. The results of this evaluation are documented in Subsection 03.4.1.3.

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 the Technical/Topical Report

This completes MHI's response to the NRC's question.