
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

08/01/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 1044-7140 REVISION 3
SRP SECTION: 03.08.04 – Other Seismic Category I Structures
APPLICATION SECTION: 3.8.4
DATE OF RAI ISSUE: 07/08/2013

QUESTION NO. 03.08.04-58:

On April 3, 2013, the applicant submitted a markup of DCD Tier 2 Section 3.8 to provide updated information related to a seismic design change.

In Subsection 3.8.4.4.1.4, "Below Grade Exterior Walls" (Page 3.8-78), a surcharge of 450 psf (Page 3.8-79) is included in the calculation of the lateral earth pressure.

The applicant is requested to address whether the 450 psf surcharge load include the weight of the nearby building such as the turbine building (T/B) and the access building (AC/B).

ANSWER:

The 450 psf surcharge load on below grade exterior walls stated in Subsection 3.8.4.4.1.4 does not include the weight of the nearby access building (AC/B) and the turbine building (T/B).

The bottom of the basemat for the AC/B is below the elevation of the top of the basemat for the reactor building (R/B) complex (-26 ft.-4 in.). See Figure 1 on page 2 for elevation view of the AC/B. Hence the AC/B will not cause a surcharge load on the adjacent below grade walls of the auxiliary building (A/B).

The basemat of the T/B will cause negligible surcharge loading on the R/B complex. The bottom of the T/B basemat is at elevation -24 ft.-7 in., while the top of the R/B complex basemat is at elevation -26 ft.-4 in. (see Figure 2 Page 2). This small 1 ft.-9 in. difference in elevation, along with the 20 ft.-6 in. separation between the buildings (see Figure 2 page 2), translates to the surcharge loading on the walls of the essential service water pipe chase (ESWPC) from the T/B being negligible.



Figure 1: Auxiliary and Access Building Elevation View (Looking North)



Figure 2: Reactor Building and Turbine Building Elevation View (Looking East)

Impact on DCD

There is no impact on the DCD.

Impact on R-COLA

There is no impact on the R-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.