
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

08/01/2013

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.: NO. 1045-7141 REVISION 3
SRP SECTION: 03.08.05 – Foundations
APPLICATION SECTION: 3.8.5
DATE OF RAI ISSUE: 07/08/2013

QUESTION NO. 03.08.05-66:

In its revised response to RAI 340-2004, Question 03.08.05-13, dated March 29, 2013, the applicant states that "Differential settlement across the R/B [reactor building] complex foundation is 5.5 in. (this corresponds to a general slope of the R/B complex foundation smaller than 1/1000)." The staff found that statement to be incorrect. The R/B complex basemat is 335 (ft) in north-south direction and 413 (ft) in east-west direction. 5.5 (in) corresponds to a slope of 1/731 in the north-south direction and 1/901 in the east-west direction. Both slopes are greater than 1/1000; not less than 1/1000 as stated above. The applicant is requested to address the discrepancy

ANSWER:

The maximum differential settlement of 5.5 in. was calculated between two opposite corners of the Reactor Building (R/B) complex (the South-West and the North East corners). The distance between these corners is about 477 ft, which results in a general slope of the R/B complex of 1/1040. Other values of differential settlement between adjacent corners are as follows:

- 2.44 in. between the South-East and the North-East corners, corresponding to a slope of approximately 1/1600. The differential settlement calculated between the South-West and the North-West corners is smaller.
- 3.22 in. between the North-West and the North-East corners, corresponding to a slope of approximately 1/1280. The differential settlement calculated between the South-West and the South-East corners is smaller.

Therefore, as stated in the revised response to RAI 340-2004, Question 03.08.05-13, dated March 29, 2013, the average slope of the R/B complex resulted in a slope smaller than 1/1000.

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.