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**RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION**

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**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

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**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

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**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.

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