REQUEST FOR ADDITIONAL INFORMATION 546-4345 REVISION 0

3/15/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.04.02 - Analysis Procedures
Application Section: SRP 3.4.2

QUESTIONS for Structural Engineering Branch 1 (AP1000/EPR Projects) (SEB1)

03.04.02-6

In the response to RAI # 489-3516, question no. 03.04.02-5, MHI stated, "The coefficient of friction at the base/soil interface used in the standard plant analyses is described in the response to RAI 340-2004, Question 3.8.5-17, in which case the friction coefficient is taken as 0.7."

The friction coefficient at concrete-soil interface set as 0.7 is higher than expected. Normally it is about 0.3. Furthermore, the saturated soil normally has a much lower friction coefficient than the unsaturated soils, and as a result, the combined effect will certainly reduce the soil-structure interface friction coefficient. MHI is requested to provide technical bases (data, analysis or a combination of data and analysis) to justify the use of 0.7 as the value of friction coefficient at the soil-structure interface, and to show that the effect of ground water level on the interface friction coefficient is negligible.

References:
MHI's Response to US-APWR DCD RAI No. 489-3516, MHI Ref: UAP-HF-09575, dated December 23, 2009, ML100120294

MHI's Response to US-APWR DCD RAI No. 340-2004, MHI Ref: UAP-HF-09363, dated July 3, 2009, ML091900557