

REQUEST FOR ADDITIONAL INFORMATION 312-2348 REVISION 1

4/2/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 15.04.07 - Inadvertent Loading and Operation of a Fuel Assembly in an Improper Position
Application Section: 15.4.7

QUESTIONS for Reactor System, Nuclear Performance and Code Review (SRSB)

15.04.07-1

Question 15.4.7-1

The measures to prevent an assembly loaded with an incorrect azimuthal orientation as presented in this section are essentially procedural in nature. Thus, they are within the realm of possibility given the likelihood of human error. Provide the resulting power distribution for the worst-case inadvertent rotation event. Are there mechanical constraints in place to prevent this from happening? If so, provide details regarding these constraints.

15.04.07-2

Question 15.4.7-2

Provide a reference in this section for the code version of ANC used in these analyses.

15.04.07-3

Question 15.4.7-3

Elaborate on the sensitivity of the in-core instrumentation used throughout startup to detect deviations from the predicted power distribution. What magnitude of deviations would be the minimum to be detected?