

REQUEST FOR ADDITIONAL INFORMATION 256-1467 REVISION 0

3/3/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 04.03 - Nuclear Design

Application Section: 4.03

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

04.03-15

DCD Section 4.3.2.2.1: Provide data and calculation for determining the heat flux hot channel factor, F_Q . Include discussion of the engineering heat flux hot channel factor, F_Q^E , and its associated statistical analysis of manufacturing tolerances. This question is asked to satisfy GDC10.

04.03-16

DCD Section 4.3.2.2.1: Provide critical heat flux correlation for the 14ft fuel and supporting test data. This question is asked to satisfy GDCs10, 26 and 27.

04.03-17

DCD Section 4.3.3.1: Provide references and details/correlation on the burnup dependent pellet-cladding gap model. This question is asked to satisfy GDC28.

04.03-18

DCD Section 4.3.3.1: Provide the input deck, output, and input manual for PARAGON and ANC codes used to determine core parameters. This question is asked to satisfy GDC10.

04.03-19

DCD Section 4.3.2.7.1: a) Does the axial stability index, b , become positive with burnup or is it just conditional stability at MOC? b) Quantify how the axial stability index behavior for the US-APWR compares to operating PWRs with active 12ft and 14ft cores. This question is asked to satisfy GDCs 10, 12 and 27.