

REQUEST FOR ADDITIONAL INFORMATION 653-5208 REVISION 2

11/1/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 04.05.02 - Reactor Internal and Core Support Structure Materials
Application Section: 4.5.2

QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects)
(CIB1)

04.05.02-24

In its response to RAI 374-2446 Question 03.09.05-9 relative to IASCC, the applicant stated that its assessment of IASCC was performed in accordance with EPRI's MRP-175 guidelines. The staff notes that Appendix B to MRP-175 provides screening criteria for PWR internals for the combination of stress and neutron exposure. The applicant's response to RAI 374-2446 Question 03.09.05-9 provides the stress threshold and neutron exposure for the US-APWR neutron reflector block alignment pin, neutron reflector tie-rod, and core barrel. The staff confirmed that the stress threshold for IASCC provided in this response was calculated in accordance with the guidance of MRP-175. However, the applicant's response to RAI 374-2446 Question 03.09.05-9 does not clearly provide the operational stress for the alignment pin, tie-rod, and core barrel or whether the operational stress will be below the MRP-175 stress threshold for IASCC. Please discuss (1) the anticipated operational stress for the US-APWR neutron reflector alignment pin, neutron reflector tie-rod, and core barrel and (2) whether this operational stress is predicted to be below the MRP-175 stress threshold for IASCC. If the applicant cannot confirm that these components fall below the MRP-175 stress threshold for IASCC, provide an assessment that IASCC is not a concern for these components during the design life of 60 years or define an acceptable program for assessing and managing the effects of IASCC on reactor internals.