

**REQUEST FOR ADDITIONAL INFORMATION TOPICAL REPORT
THERMAL DESIGN METHODOLOGY
MUAP-07009-P**

12/03/2010

US-APWR Topical Report

Mitsubishi Heavy Industries Ltd.

Docket No. 52-021

Background

By letter dated May 25, 2007, Mitsubishi Heavy Industries, Ltd. (MHI) submitted Topical Report MUAP-07009-P, Revision 0, "Thermal Design Methodology," for U.S. Nuclear Regulatory Commission (NRC) staff's review and approval. This topical report describes the MHI thermal design methodology for analyzing the thermal-hydraulic conditions in the MHI-designed pressurized water reactor cores. The topical report supports US-APWR Design Control Document Section 4.4, "Thermal-Hydraulic Design."

On October 19 – 20, 2010 the NRC staff conducted an audit of the MHI vendor's software quality assurance (SQA) program for the VIPRE-01M computer code used for safety analysis in the topical report MUAP-07009-P. The audit covered the implementation of the SQA procedures as well as a review of the technical bases for the code changes.

The NRC staff has prepared a request for additional information resulting from the audit.

1. The DNBR correlation limits have been stated in a RAI response to the Topical Report MUAP-07009. How will users of the code be made aware of the correlation limits? What document(s) would be modified?
2. As part of the code development and usage process a series of checklists are used. Does the code developer and user checklists including checking and depositing code warning messages and non-fatal errors? If not, explain why it is not necessary.