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TOKYO, JAPAN

December 25, 2008

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Attention: Mr. Jeffrey A. Ciocco,

Docket No. 52-021
MHI Ref: UAP-HF-08307

Subject: MHI's Response to US-APWR DCD RAI No. 119-792 Revision 0

Reference: 1) "Request for Additional Information No. 119-792 Revision 0, SRP Section: 06.02.01.05, Application Section: 6.2.1.5" dated December 3, 2008.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "Response to Request for Additional Information No. 119-792 Revision 0."

Enclosed is the response to one RAI contained within Reference 1.

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittals. His contact information is below.

Sincerely,

Y. Ogata

Yoshiki Ogata,
General Manager- APWR Promoting Department
Mitsubishi Heavy Industries, LTD.

Enclosure:

1. Response to Request for Additional Information No. 119-792 Revision 0

CC: J. A. Ciocco
C. K. Paulson

Contact Information
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NRO

Docket No. 52-021
MHI Ref: UAP-HF-08307

Enclosure 1

UAP-HF-08307
Docket Number 52-021

Response to Request for Additional Information
No. 119-792 Revision 0

December 2008

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

12/25/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**119-792**
SRP SECTION:	**06.02.01.05- MINIMUM CONTAINMENT PRESSURE ANALYSIS FOR EMERGENCY CORE COOLING SYSTEM PERFORMANCE CAPABILITY STUDIES**
APPLICATION SECTION:	**SRP 6.2.1.5**
DATE OF RAI ISSUE:	**12/3/2008**

QUESTION NO. : 06.02.01.05-5

6.2.1.5: Comparing Table 6.2.1-30 with Table 6.2.1-9 (for nominal breaks), the heat transfer areas are always larger in Table 6.2.1-30 (to increase the heat transfer), however thickness of concrete and other materials appeared to be larger as well. It appears that for conservative calculations the thicknesses of the walls in contact with the exterior cold temperature should be minimized rather than maximized. Please, discuss and/or justify the used thicknesses.

ANSWER:

In the minimum containment pressure analysis, the wall thicknesses of the all passive heat sinks are set using maximum volumes and surface areas to maximize the heat capacities and the heat transfer areas.

The containment shell, that is, the containment dome (1) and the containment cylinder (2) in Table 6.2.1-30, is in contact with the atmosphere outside of the containment. The outside surface of the containment shell is conservatively maintained at the exterior atmosphere cold temperature throughout the calculation for the minimum containment pressure analysis.

In order to confirm that the treatment of the wall thickness of conductors in contact with the exterior atmosphere was appropriate for the minimum pressure analysis, a sensitivity study was conducted. In the sensitivity study, the wall thickness of the concrete in the containment cylinder was changed from 53.9 inch (the value used for the minimum containment pressure analysis) to 52.0 inch (the value used for the maximum containment pressure analysis). The results for the containment pressure and the containment atmospheric temperature are shown in Figure-1 and Figure-2, respectively. The results indicate that the change in the concrete shell thickness has virtually no effect on the containment pressure and temperature in this analysis. For the short duration of the transient, the heat from the containment penetrates only a short distance into the thick wall so that the change in thickness beyond the penetration depth has no effect.

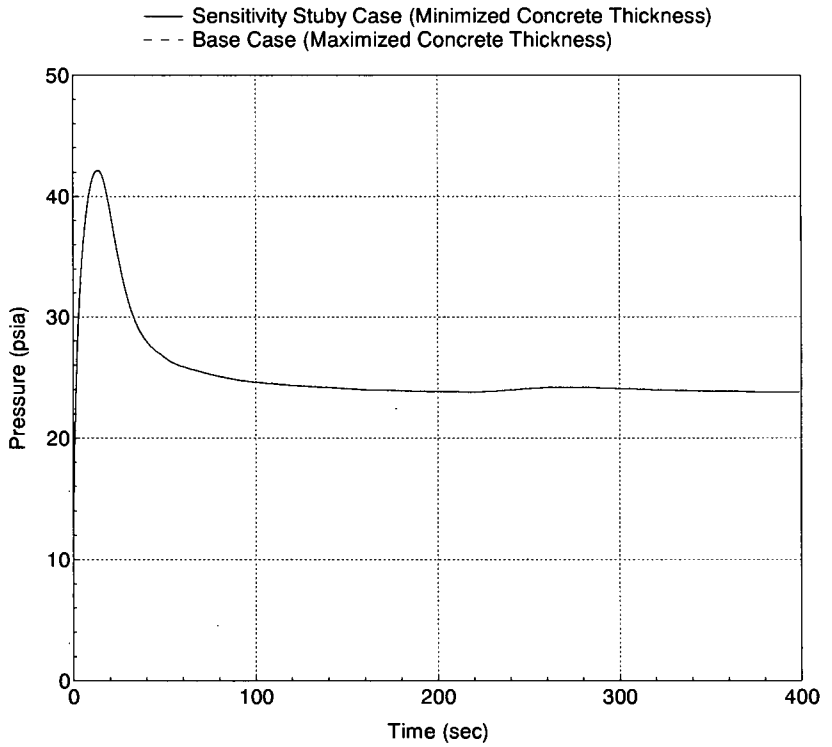

Figure-1 Containment Pressure

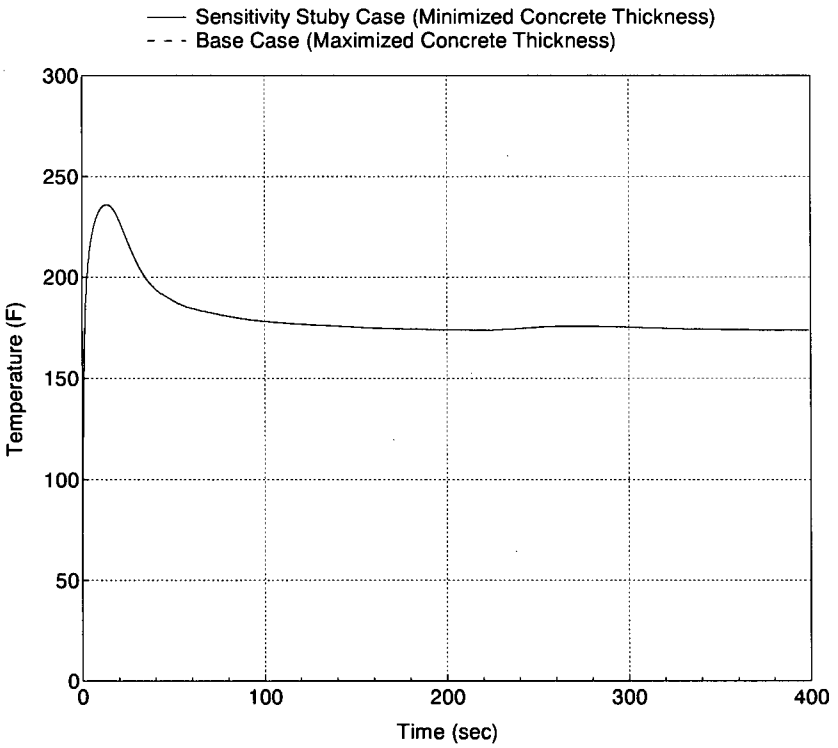

Figure-2 Containment Atmospheric Temperature

Impact on DCD

There is no impact on the DCD

Impact on COLA

There is no impact on the COLA

Impact on PRA

There is no impact on the PRA

This completes MHI's response to the NRC's question.