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TOKYO, JAPAN

January 15, 2009

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-09008

Subject: MHI's Response to US-APWR DCD RAI No. 117-790 Revision 0

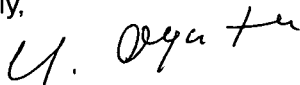
Reference: 1) "Request for Additional Information No. 113-786 Revision 0, SRP Section: 06.02.01.05, Application Section: 6.2.1.5" dated December 3, 2008.

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. 117-790 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,



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

Enclosure:

1. Response to Request for Additional Information No. 117-790 Revision 0

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

Contact Information

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Docket No. 52-021
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Enclosure 1

UAP-HF-09008
Docket Number 52-021

Response to Request for Additional Information
No. 117-790 Revision 0

January 2009

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

01/15/2009

**US-APWR Design Certification
Mitsubishi Heavy Industries
Docket No. 52-021**

RAI NO.: NO.117-790 REVISION 0
SRP SECTION: 06.02.01.05 – MINIMUM CONTAINMENT PRESSURE ANALYSIS FOR EMERGENCY CORE COOLING SYSTEM PERFORMANCE CAPABILITY STUDIES
APPLICATION SECTION: 6.2.1.5
DATE OF RAI ISSUE: 12/03/2008

QUESTION NO. : 06.02.01.05-3

6.2.1.5: Please, explain/justify the use of 70 °F as the minimum containment temperature.

ANSWER:

In order to estimate lower containment pressure transient during LOCA for conservatism, the minimum containment temperature is used for the minimum containment pressure analysis as is described in the branch technical position 6-2 B. 1. A. of the standard review plan. This is because the large released energy absorption is evaluated by the assumptions of the lower initial containment atmosphere temperature and the passive heat sink temperature.

The minimum containment temperature is decided as 70 °F followed by the temperature specified for the plant design in the early stage constructed over the past few decades. Using the same temperature with the FTE (Fracture Transition Elastic) of materials used for Class 1 component was taken into consideration at that time. The Pellini's fracture analysis diagram shows FTE is NDT (Nil-Ductility Transition Temperature) + 60 °F, and the NDT of ferritic steels used for Class 1 component can be specified as 10 °F in order to prevent from brittle fracture. Since the early stage, the ferritic steels of which NDT is 10 °F were available. And so, the minimum containment temperature of 70 °F was decided as reasonable numerical value.

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.