


MITSUBISHI HEAVY INDUSTRIES, LTD.
16-5, KONAN 2-CHOME, MINATO-KU

September 14, 2010

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

Attention: Mr. Jeffery A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-10250

Subject: MHI's Response to US-APWR DCD RAI No. 620

- Reference:** 1) "Request for Additional Information No. 620-4886 Revision 2, SRP Section: 04.05.02 – Reactor Internal and Core Support Structure Materials, Application Section: 4.5.2," dated 8/13/2010
2) "MHI's Response to US-APWR DCD RAI No.540-4176 Revision 0, UAP-HF-10159", dated June 4, 2010

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") documents entitled "Response to Request for Additional Information No. 620-4886, Revision 2"

Enclosed is the response to 1 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 provided below.

Sincerely,



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

Enclosures:

1. "Response to Request for Additional Information No. 620-4886, Revision 2"

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

Contact Information

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DOB
NRO

Docket No. 52-021
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Enclosure 1

UAP-HF-10250
Docket No. 52-021

Response to Request for Additional Information No. 620-4886,
Revision 2

September 2010

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

09/14/2010

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

RAI NO.: NO. 620-4886 REVISION 2
SRP SECTION: 04.05.02 - REACTOR INTERNAL AND CORE SUPPORT STRUCTURE MATERIALS
APPLICATION SECTION: 4.5.2
DATE OF RAI ISSUE: 08/13/2010

QUESTION NO.: 04.05.02-23

In Table 4.5-2 of the USAPWR DCD, cast austenitic stainless steel alloy SA-351 CF-8 is proposed as an option for the guide funnel of CRDM thermal sleeve. Staff requests that the applicant verify that, under the expected environmental conditions, the selected material will provide adequate fracture toughness over its design life (e.g., considering thermal aging due to exposure to reactor coolant operating temperatures.)

ANSWER:

The Note (1) of Table 4.5-2 refers to the DCD Subsection 5.2.3. The requirement for cast austenitic stainless steel is specified in the fourth paragraph of the DCD Rev. 2 Subsection 5.2.3.4. Reflecting NRC request regarding RAI No.540-4176 Revision 0, this Subsection will be revised as shown in the MHI letter UAP-HF-10159 "MHI's Response to US-APWR DCD RAI No.540-4176 Revision 0" dated June 4, 2010. Since a revision on the DCD Subsection 5.2.3 is automatically applied to Subsection 4.5.2, this revision ascertains that if SA-351 CF-8 is selected for the guide funnel of CRDM thermal sleeve, to ensure adequate fracture toughness over its design life, its ferrite content will be controlled to be less than or equal to 20% in compliance with the Subsection 5.2.3.4.

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.