MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

December 26, 2011

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-11450

Subject: MHI's Response to US-APWR DCD RAI No. 870-6102 REVISION 3 (SRP 03.09.03)

Reference: 1) "Request for Additional Information 870-6102 Revision 3, SRP Section: 03.09.03 – ASME Code Class 1, 2 and 3 Components, Application Section: 03.09.03", dated November 14, 2011.

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. 870-6102 Revision 3".

Enclosed is the response to one (1) RAI, Question 03.09.03-29, contained within Reference 1. This transmittal completes the response to this RAI.

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
Director- APWR Promoting Department
Mitsubishi Heavy Industries, LTD.

Enclosures:

1. Response to Request for Additional Information No.870-6102 Revision 3

D081
NRO

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

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Enclosure 1

UAP-HF- 11450
Docket Number 52-021

Response to Request for Additional Information No. 870-6102
Revision 3

December 2011

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

12/26/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 870-6102 REVISION 3**
SRP SECTION:	**03.09.03 – ASME Code Class 1, 2 and 3 Components**
APPLICATION SECTION:	**03.09.03**
DATE OF RAI ISSUE:	**11/14/2011**

QUESTION NO.: 03.09.03-29

This RAI 6065 is a supplemental RAI to RAI 209, Question 03.09.03-2:

Under 10 CFR 50.55a, "Codes and Standards", certain systems and components of pressurized-water-cooled nuclear power reactors must be designed, fabricated, erected, and tested in accordance with the standards for Class 1, 2, and 3 components given in Section III, "Nuclear Power Plant Components," of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code or equivalent quality standards.

Regulatory Guidance 1.26 (RG-1.26) provided Table 1 of industry code and standard requirements for Quality Group D components to be applied to water and steam containing components that are not part of the reactor coolant pressure boundary (RCPB) or included in Quality Groups B or C, but are part of systems or portions of systems that contain or may contain radioactive material.
The staff requests that the applicant specify the industry code and standard requirements for the design of Quality Group D in US APWR DCD.

ANSWER:

The codes and standards requirements for Quality Group D components are applied in accordance with Table 1 of Regulatory Guide (RG) 1.26, including ASME B&PV Code Section VIII, Division 1 for the pressure vessels, ASME B31.1 for piping, API-650 or ASME B96.1 for atmospheric storage tanks, and the other identified codes. US-APWR DCD Subsection 3.2.2.4 which already invokes these codes and standards. As shown in that section, Equipment Class 4 is identified as equivalent to Quality Group D in accordance with RG 1.26, which is DCD Reference 3.2-13. The applicable codes and standards for each Equipment Class 4 component will be provided in design specification for the component. Equipment Class 4 applies to water- and steam-containing non-safety related components that are not part of the RCPB, or included in Quality Groups B or C, or Radioactive Waste Management Systems, but are part of systems or portions of systems that contain or may contain radioactive material.

Impact on DCD

DCD Section 3.2.2.4, "Equipment Class 4" will be revised as shown in Attachment A.

Impact on R-COLA

There is no impact on the R-COLA.

Impact on S-COLA

There is no impact on the S-COLA.

Impact on PRA

There is no impact on the PRA.

Impact on Topical/Technical Report

There is no impact on Topical/Technical Report.

- Safety-related instrument sensing lines described in RG 1.151 (Reference 3.2-9) for classifying instrument sensing lines in terms of the ASME Code, Section III (Reference 3.2-14), Class 3

- Ultimate heat sink (UHS) and supporting systems described in Subsection 9.2.5.

Equipment Class 3 SSCs are classified as seismic category I, and the codes and standards for NRC, Quality Group C are applied. Equipment Class 3 components are designed to meet ASME Code, Section III (Reference 3.2-14), Class 3 requirements and the QA criteria of 10 CFR 50, Appendix B (Reference 3.2-8). Supports are designed and constructed to ASME Code, Section III (Reference 3.2-14), Subsection NF requirements, and the same QA criteria for components apply to the supports.

3.2.2.4 Equipment Class 4

Equipment Class 4 is equivalent to NRC, Quality Group D in accordance with RG 1.26 (Reference 3.2-13). ~~Class D~~Equipment Class 4 applies to water- and steam-containing non-safety related components that are not part of the RCPB or included in Quality Groups B or C, or RWMS, but are part of systems or portions of systems that contain or may contain radioactive material. DCD_03.09.03-29

Equipment Class 4 SSCs are classified as NS or seismic category II. The codes and standards for NRC Quality Group D are applied as follows:

• Pressure Vessels	ASME Code, Section VIII, Division 1 (Reference 3.2-19)
• Piping	ASME B31.1 (Reference 3.2-20)
• Pumps	Manufacturers' standards
• Valves	ASME B31.1 (Reference 3.2-20)
• Atmospheric Storage Tanks	API-650 (Reference 3.2-21), AWWA D-100 (Reference 3.2-22), or ASME B96.1 (Reference 3.2-23)
• 0-15 psig Storage Tanks	API-620 (Reference 3.2-24)
• Supports	Manufacturers' standards

3.2.2.5 Other Equipment Classes

Equipment Class 5

Equipment Class 5 is assigned to non-safety related components that are not part of the RWMS and not within the purview of RG 1.26 (Reference 3.2-13). Equipment Class 5 is also assigned to components that are listed as "risk-significant, non-safety related" based on the seismic event identified in Section 17.4. In addition, this equipment class is also assigned to non-safety related structures and structural components, instrumentation, controls, and electrical components.