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

August 3, 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-09415

**Subject:** MHI's Response to US-APWR DCD RAI No. 414-3078 REVISION 1

**Reference:** 1) "Request for Additional Information 414-3078 Revision 1, SRP Section: 03.06.03 - Leak-Before-Break Evaluation Procedures, Application Section: 3.6.3," dated June 29, 2009.

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. 414-3078 Revision 1."

Enclosed is the response to the 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. 414-3078 Revision 1

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

D081
NRO

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Docket No. 52-021
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Enclosure 1

UAP-HF-09415
Docket Number 52-021

Response to Request for Additional Information
No. 414-3078 Revision 1

August 2009

## RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

**8/3/2009**

**US-APWR Design Certification**

**Mitsubishi Heavy Industries**

**Docket No. 52-021**

| | |
|---|---|
| **RAI NO.:** | **NO. 414-3078 REVISION 1** |
| **SRP Section:** | **03.06.03 – Leak-Before-Break Evaluation Procedures** |
| **APPLICATION SECTION:** | **3.6.3** |
| **DATE OF RAI ISSUE:** | **06/29/09** |

**QUESTION NO. : RAI 3.6.3-17**

This is a follow-up of RAI 217-2025 Question 3.6.3-16. In the response to RAI 217-2025 Question 3.6.3-16, the applicant stated that the seismic qualification of the containment sump level monitor will be changed to Seismic Category I. The applicant also modified Section 5.2.5.4.1.1, "Containment Sump Level and Flow Monitoring System," to state that the sump level monitoring system is qualified for a safety shutdown earthquake. However, the applicant did not include the containment sump level monitor in Table 3.2-2, "Classification of Mechanical and Fluid Systems, Components, and Equipment." The applicant is requested to identify the containment sump level and flow monitoring system in Table 3.2-2 and indicate its seismic category classification.

**ANSWER:**

The seismic category classification of instruments is identified in Chapter 3, Table 3D-2 "US-APWR Environmental Qualification Equipment List" of the DCD. MHI will revise Table 3D-2 to include the containment sump level monitor and identify its seismic category classification.

**Impact on DCD**

See Attachment 1 for the mark-up of DCD Tier 2, Appendix 3D, Table 3D-2, for changes to be incorporated:

- Insert the following rows for two containment sump water level transmitters their characteristic and requirements after Item Number 154 in Table 3D-2 (Sheet 7 of 57), page 3D-11:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 155 | LMS-LT-1083A | Containment Sump Water Level A | PCCV | Other | 36hr | Harsh | E | I | |
| 156 | LMS-LT-1083B | Containment Sump Water Level B | PCCV | Other | 36hr | Harsh | E | I | |

**Impact on COLA**

There is no impact on the COLA.

**Impact on PRA**

There is no impact on the PRA.

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This completes MHI's response to this question.

Table 3D-2 US-APWR Environmental Qualification Equipment List
(Sheet 7 of 57)

| Item Num | Equipment Tag | Description | Location | Purpose | Operational Duration | Environmental Conditions | Qualification Process | Seismic Category | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | | | (PCCV, R/B, A/B, O/B,T/B, UHSRS) | RT, ESF, PAM, PB, Other | | Harsh or Mild | E=Electrical M=Mechanical | I, II, Non | |
| 139 | NCS-PT-1220 | A - Component Cooling Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 140 | NCS-PT-1221 | B - Component Cooling Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 141 | NCS-PT-1222 | C - Component Cooling Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 142 | NCS-PT-1223 | D - Component Cooling Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 143 | EWS-FT-2024 | A - Component Cooling Water Heat Exchanger Essential Service Water Flow | R/B | Other | 36hr | Mild | E | I | |
| 144 | EWS-FT-2025 | B - Component Cooling Water Heat Exchanger Essential Service Water Flow | R/B | Other | 36hr | Mild | E | I | |
| 145 | EWS-FT-2026 | C - Component Cooling Water Heat Exchanger Essential Service Water Flow | R/B | Other | 36hr | Mild | E | I | |
| 146 | EWS-FT-2027 | D - Component Cooling Water Heat Exchanger Essential Service Water Flow | R/B | Other | 36hr | Mild | E | I | |
| 147 | EWS-PT-2005 | A - Essential Service Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 148 | EWS-PT-2006 | B - Essential Service Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 149 | EWS-PT-2007 | C - Essential Service Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 150 | EWS-PT-2008 | D - Essential Service Water Header Pressure | R/B | PAM, Other | 2wks | Mild | E | I | |
| 151 | RWS-LT-1400 | Refueling Water Storage Pit Water Level (Narrow Range) | PCCV | PAM | 1yr | Harsh | E | I | |
| 152 | RWS-LT-1401 | Refueling Water Storage Pit Water Level (Wide Range) | PCCV | PAM, Other | 1yr | Harsh | E | I | |
| 153 | RWS-LT-1402 | Refueling Water Storage Pit Water Level (Narrow Range) | PCCV | PAM | 1yr | Harsh | E | I | |
| 154 | RWS-LT-1403 | Refueling Water Storage Pit Water Level (Wide Range) | PCCV | PAM, Other | 1yr | Harsh | E | I | |
| 155 | LMS-LT-1083A | Containment Sump Water Level A | PCCV | Other | 36hr | Harsh | E | I | |
| 156 | LMS-LT-1083B | Containment Sump Water Level B | PCCV | Other | 36hr | Harsh | E | I | |