MITSUBISHI HEAVY INDUSTRIES, LTD.
TOKYO, JAPAN

July 29, 2011

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-11245

Subject: Amended MHI's Response to US-APWR DCD RAI No. 679-4985 Revision 0 (SRP 03.09.04)

Reference: 1) "Request for Additional Information No. 679-4985 Revision 0, SRP Section: 03.09.04 – Control Rod Drive Systems, Application Section: 3.9.4," dated 1/11/2011
2) "MHI's Response to US-APWR DCD RAI No. 679-4985 Revision 0 (SRP 03.09.04), UAP-HF-09507," dated 2/9/2011
3) "Amended MHI's Response to US-APWR DCD RAI No. 679-4985 Revision 0 (SRP 03.09.04), UAP-HF-11120," dated 4/25/2011

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") documents entitled "Amended Response to Request for Additional Information No. 679-4985, Revision 0"

Enclosed is the response to the Question No. 03.09.04-11 of the RAI (Reference 1).

This response amends the previously transmitted answers submitted under MHI Reference UAP-HF-11120 on April 25, 2011 (Reference 3) in order to correct description of tests for CRDM.

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,

Y. Ogata

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

D081
NRO

Enclosures:

1. Amended Response to Request for Additional Information No. 679-4985, Revision 0

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

Contact Information
C. Keith Paulson, Senior Technical Manager
Mitsubishi Nuclear Energy Systems, Inc.
300 Oxford Drive, Suite 301
Monroeville, PA 15146
E-mail: ck_paulson@mnes-us.com
Telephone: (412) 373-6466

Docket No. 52-021
MHI Ref: UAP-HF-11245

Enclosure 1

UAP-HF-11245
Docket No. 52-021

Amended Response to Request for Additional Information
No. 679-4985, Revision 0

July 2011

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

7/29/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 679-4985 REVISION 0**
SRP SECTION:	**03.09.04 - CONTROL ROD DRIVE SYSTEMS**
APPLICATION SECTION:	**3.9.4**
DATE OF RAI ISSUE:	**1/11/2011**

QUESTION NO.: 03.09.04-11

This question is a follow-up to question 03.09.04-8, RAI 604-4775.

In its response, MHI will incorporate in 3.9.4.4, "On-site checks" with summary of inspection and criteria. This is acceptable.

In addition revisions were made for subsections 14.2.12.1.10 and 14.2.12.1.11. However, each of the hundred-plus subsections under subsection 14.2.12.1, Preoperational Tests, has a consistent format. The proposed revisions will be inconsistent with this format. In the interest of consistency for Section 14.2, the staff requests that the proposed revisions for 14.2.12.1.10 and 14.2.12.1.11 not be included in the next revision of the DCD as proposed in the response.

Instead, the staff requests that the applicant use the format of existing 'Lead unit test' description in the section 3.9.4.4, and add to 3.9.4.4, after the "On-site checks (per response to question 03.09.04-8), but before the "Initial Startup Test" (per response to RAI 570-4428, question 03.09.04-5), a similar description for the Preoperational Tests.

References:
MHI's Response to US-APWR DCD RAI No.570-4428; MHI Ref: UAP-HF-10140; dated May 19, 2010; ML101450199
MHI's Response to US-APWR DCD RAI No.604-4775; MHI Ref: UAP-HF-10221; dated July 28, 2010; ML102140340

ANSWER:

MHI agrees with the staff's request and therefore Subsections 14.2.12.1.10 and 14.2.12.1.11 will remain unchanged and the prerequisites for those tests will be added to Subsection 3.9.4.4 as "Preoperational tests."

Impact on DCD

- Subsection 3.9.4.4 will be revised as follows:

On-site checks

.....

Preoperational tests

Preoperational tests are performed on electrical systems such as the CRDM Motor Generator Set and the CRDM Control System, which are identified in Subsection 14.2.12.1.10 and 14.2.12.1.11. There are no preoperational test items on the CRDMs themselves.

Initial Startup Test

.....

- Since RAI 604-4775 was incorporated into Revision 3 of DCD, subsection 14.2.12.1.10 will be revised from Revision 3 of DCD as follows:

  14.2.12.1.10 CRDM Motor-Generator Set Preoperational Test

  .....

  B. Prerequisites

  1. Required construction testing is completed. ~~The construction testing includes installation inspection, generator and motor inspection, control panel inspection, and insulation resistance measurement.~~

  2. Component testing and instrument calibration is completed. ~~This includes power incoming circuit inspection, excitation relays test, protection relays test, resistance measurement of relays, automatic voltage regulator test, timer relays test, automatic synchronization device test, and instruments test.~~

  3. Test instrumentation is available and calibrated.

  .....

- Since RAI 604-4775 was incorporated into Revision 3 of DCD, subsection 14.2.12.1.11 will be revised from Revision 3 of DCD as follows:

  14.2.12.1.11 CRDM Initial Timing Preoperational Test

  .....

  B. Prerequisites

  1. Required construction testing is completed. ~~The construction testing includes installation inspection and wiring continuity check.~~

  2. Component testing and instrument calibration is completed. ~~This includes initial energization check of CRDM control system.~~

  3. Test instrumentation is available and calibrated.

  .....

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.