MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

December 18, 2008

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-08301

Subject: MHI's Response to US-APWR DCD RAI No. 123 Revision 0

Reference: 1) "Request for Additional Information No. 123-1599 Revision 0, SRP Section: 14.02 – Initial Plant Test Program – Design Certification and New License Applicants, Application Section: SRP 14.2," dated December 4, 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.123 Revision 0."

Enclosed is the response to Question 14.02-107 that is 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.123 Revision 0

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

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Docket No. 52-021
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Enclosure 1

UAP-HF-08301
Docket No. 52-021

Response to Request for Additional Information No. 123 Revision 0

December 2008

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

12/18/2008

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 123-1599 REVISION 0**
SRP SECTION:	**14.02 – Initial Plant Test Program – Design Certification and New License Applicants**
APPLICATION SECTION:	**14.2**
DATE OF RAI ISSUE:	**12/4/2008**

QUESTION NO.: 14.02-107

US-APWR DCD, Section 14.2.1.2.1, Paragraph 1, and the US-APWR Test Program Description, MUAP-08009, Revision 0, give a brief amount of information on the types of construction tests to be done.
RG 1.68, App. C, Item 1.a (3) identifies the types of component level construction tests needed as a prerequisite to performing preoperational tests. MUAP-08009, in Section 4.1.2, states that the guidance in RG 1.68 App. C, Item 1.a is "considered."
Please include the additional detail from RG 1.68, App. C, Item 1.a(3) in Section 14.2.1.2.1 of the DCD.
(BNL 14.2-3)

ANSWER:

RG 1.68 Appendix C, Item 1.a (3) states that "the following items should typically be considered for common types of equipment", recognizing that the tests listed are representative and not comprehensive. Similar to RG 1.68, MHI indicates that the list in RG 1.68 Appendix C, Item 1.a (3) is not comprehensive when using the term "considered" in MUAP-08009 section 4.1.2 and notes that installation test (i.e., component level construction test) requirements are "based on equipment vendor specifications, installation/setup manuals, applicable industry standards, engineering design, and system operating requirements." Construction tests will be conducted on valves, pumps, motors and generators, piping and vessels, and electrical and instrumentation and control equipment.

MHI will clarify the methods used to specify installation tests, and the criteria to determine which tests are required, in DCD Subsection 14.2.1.2.1.

Impact on DCD

This revision impacts revision 1 of the DCD in Subsection 14.2.1.2.1 on page 14.2-3 as follows:

14.2.1.2.1 Construction Tests

Construction and preliminary tests and inspections typically consist of activities such as hydrostatic pressure tests, flushing, cleaning, wiring continuity and separation checks,

electrical distribution, protection relays, initial instrument calibrations, valve functional checks, motor rotational checks, etc. and functional tests of components.

The objective of the construction and preliminary tests and inspections test phase is to verify and document that construction and installation of equipment in the facility have been accomplished in accordance with design, and that the equipment and components are functional and ready for preoperational testing.

Construction test abstracts are not included in this section. The development of construction and installation tests is based on engineering design, applicable industry standards and vendor information. **A construction test matrix is developed for each system listing required tests and inspections for piping, wiring, equipment, valves, instruments and control devices. The test requirements are determined using tests listed in Regulatory Guide (RG) 1.68 Appendix C, Item 1.a (3), ITAAC tests, specific safety functions identified in the FSAR, vendor recommendations, design requirements, applicable U.S. Nuclear Regulatory Commission (NRC) RGs and NUREGs and industry standards as identified in the FSAR, and non-safety related functional performance attributes. The construction test matrix identifies the required tests and provides justification for any tests which are determined not to be required. The construction test matrix is approved by engineering, operations and the test organizations prior to the start of testing.**

The delegation of responsibility for these tests between the construction and test organizations, and the programmatic controls for theses tests are defined in MUAP-08009. ~~These tests are performed by either construction or the startup organization, as determined by the COL licensee, using a program determined by the COL licensee.~~

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.