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TOKYO, JAPAN

December 5, 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-08265

Subject: MHI's Response to US-APWR DCD RAI No. 93 Revision 0

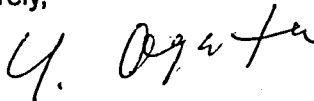
Reference: 1) "Request for Additional Information No. 93-1592 Revision 0, SRP Section: 14.02 – Initial Plant Test Program – Design Certification and New License Applicants, Application Section: SRP 14.2, 10 CFR 30.53(c), 10 CFR 52.79(a)(28)," dated November 6, 2008.

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.93 Revision 0."

Enclosed is the response to Question 14.02-90 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,



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

Enclosure:

1. Response to Request for Additional Information No.93 Revision 0

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

Contact Information

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Docket No. 52-021
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Enclosure 1

UAP-HF-08265
Docket No. 52-021

Response to Request for Additional Information No. 93 Revision 0

December 2008

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

12/05/2008

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

RAI NO.: NO. 93-1592 REVISION 0
SRP SECTION: 14.02 – Initial Plant Test Program – Design Certification and New License Applicants
APPLICATION SECTION: 14.2
DATE OF RAI ISSUE: 11/6/2008

QUESTION NO.: 14.02-90

Staff review of DCD Tier 2 (Rev 1), Section 14.2 indicates insufficient information is provided in regards to tests of radiation detection and monitoring instruments associated with the ITP as part of the initial plant startup for compliance with 10 CFR 30.53(c) and 10 CFR 52.79(a)(28). Specifically, please address the following items and revise the DCD to include this information.

1. COL 14.2(10) states that the COL applicant is responsible for testing outside the scope of the certified design in accordance with the test criteria described in Subsection 14.2.1, and is required to test personnel monitors and radiation survey instruments. Further, Table 14.2A-1, identifies an exception to RG 1.68, Appendix A, item 1.k(2) with COL 14.2(10) that also requires the COL licensee to develop the test program. Provide the conformance standards and regulatory guidance that will be used to test personnel monitors and radiation survey instruments.
2. Explain how laboratory equipment described in Section 14.2.12.1.84 to analyze or measure radiation levels and radioactivity concentrations is tested to assure reliable detection/ monitoring and instrument response for initial plant startup. Include in the discussion, the conformance standards and regulatory guidance that will be used to test laboratory equipment.

ANSWER:

Initial testing of personnel monitors and radiation survey instruments, and laboratory equipment used to analyze or measure radiation levels and radioactivity concentrations, will be conducted in accordance with the operational radiation protection program. Development of this program is the responsibility of the COL applicant as identified in Subsections 12.1.3, 12.5, and COL action item COL 12.1(5). As stated in 12.1.3, the radiation protection program is to be developed, implemented and maintained as described in the Nuclear Energy Institute Technical Report, NEI 07-03. The specific CFR criteria referenced in NEI 07-03 shall be met and strictly adhered to. All recommendations and guidance referenced in NEI 07-03 are to be addressed and implemented as applicable to the US-APWR and the plant site.

Revision 7 of NEI 07-03, currently in review by the NRC and not yet approved, includes the commitment that the radiation protection program will ensure compliance with the provisions of 10 CFR Parts 19, 20, 50, and 71 and be consistent with the guidance in Regulatory Guides 8.4, 8.6, 8.28, and the consolidated guidance in NUREG-1736 (which includes 3.20.1501(b), Instrument Calibration).

MHI will revise Table 14A-1, item 1.k(2) to indicate that the test program for testing of personnel monitors and radiation survey instruments will be developed under the operational radiation protection program by the COL licensee.

MHI will revise Table 14A-1, item 1.k(3) to indicate that the test program for testing of laboratory equipment used to analyze or measure radiation levels and radioactivity concentrations will be developed under the operational radiation protection program by the COL licensee.

MHI will revise Subsection 14.2.12 to clarify that this testing is included in the operational radiation protection program as described in Section 12.5 of the DCD. And MHI will revise Subsection 14.2.13 and Table 1.8-2 to provide a consistency with the revision of Subsection 14.2.12.

MHI will revise Section 12.5 to (1) clarify that monitoring instrumentation and equipment includes personnel monitoring and radiation survey equipment, and laboratory equipment used to analyze or measure radiation levels and radioactivity concentrations, (2) clarify the regulatory basis for the operational radiation protection program.

Impact on DCD

This revision impacts revision 1 of the DCD as follows:

- 1) Revise Table 14A-1 on page 14A-11 as follows (only affected entries shown):

RG 1.68 Appendix A	Section Number	Typical Test
1.k(2)	COL-14.2(10) N/A	Exception The test program will be developed under the operational radiation protection program specified in Section 12.5 by the COL licensee.
1.k(3)	14.2.12.1.84 N/A	Sampling System Preoperational Test The test program will be developed under the operational radiation protection program specified in Section 12.5 by the COL licensee.

- 2) Revise the second paragraph of Subsection 14.2.12 on page 14.2-23 as follows:

The COL applicant is responsible for the testing outside the scope of the certified design in accordance with the test criteria described in Subsection 14.2.1. And testing of the following is required under the operational radiation protection program as described in Section 12.5.

- Personnel monitors and radiation survey instruments
- Laboratory equipment used to analyze or measure radiation levels and radioactivity concentrations

- 3) Revise Subsection 14.2.13, Combined License Information, on page 14.2-163 as follows (only affected portions shown):

COL 14.2 (10) The COL applicant is responsible for testing outside the scope of the certified design in accordance with the test criteria described in subsection 14.2.1. ~~And testing of the following is required:~~ [14.2.12]

~~• Personnel monitors and radiation survey instruments~~

Revise Table 1.8-2 on page 1.8-43 as follows (only affected portions shown):

COL ITEM NO.	COL ITEM
COL 14.2 (10)	<p>The COL applicant is responsible for testing outside the scope of the certified design in accordance with the test criteria described in subsection 14.2.1. And testing of the following is required: [14.2.12]</p> <p style="padding-left: 40px;">• Personnel monitors and radiation survey instruments</p>

- 4) Revise Subsection 12.5 on page 12.5-1 as follows (only affected portions shown):

The COL Applicant is to provide the operational radiation protection program for ensuring that occupational radiation exposures are ALARA. This Combined Information is addressed in Subsection 12.1.4. **This program will be based on RG 1.206 and any additional guidance developed by the industry and approved by the NRC.**

The program consists of the following:

- Definition and description of the monitoring instrumentation and equipment(note)

Note: This includes the personnel monitoring and radiation survey equipment, and laboratory equipment used to analyze or measure radiation levels and radioactivity concentrations.

Impact on COLA

COL 14.2(10) of Table 1.8-201 will be revised to provide a consistent description with the revised COL information item per the DCD revision.

Impact on PRA

There is no impact on the PRA.