MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

December 24, 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-09576

Subject: MHI's Responses to US-APWR DCD RAI No. 508-3797 Revision 1

Reference: 1) "Request for Additional Information No. 508-3797 Revision 1, SRP Section: 14.03.07 – Plant Systems - Inspections, Tests, Analyses, and Acceptance Criteria, Application Section: DCD Section 2.8" dated December 15, 2009.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "Responses to Request for Additional Information No. 508-3797 Revision 1."

Enclosed is the response to Question 14.03.07-50 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. 508-3797 Revision 1

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

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Enclosure 1

UAP-HF-09576
Docket No. 52-021

Responses to Request for Additional Information No. 508-3797
Revision 1

December 2009

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

12/24/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 508-3797 REVISION 1**
SRP SECTION:	**14.03.07- PLANT SYSTEMS - Inspections, Tests, Analyses, and Acceptance Criteria**
APPLICATION SECTION:	**DCD SECTION 2.8**
DATE OF RAI ISSUE:	**12/15/2009**

QUESTION NO.: 14.03.07-50

ITAAC Item 1.a in Table 2.8-1

The staff wrote an RAI 183-1935, Question 14.03.07-14 (Question 7649) to address some concerns with these two ITAAC. The staff accepted the applicant's response to that RAI question. However, the staff has an additional concern. ITAAC Item 1.a is a standalone ITAAC that verifies that the as-built shielding walls and floor listed in Table 2.2-2 are consistent with the designed concrete wall thicknesses, and it also refers to Section 2.2 ITAAC.

Explain why (1) the AC of this ITAAC refers to " designed concrete wall" thicknesses instead of "designed concrete wall and floor" thicknesses, and (2) why it refers to Section 2.2 ITAAC since this ITAAC is a standalone ITAAC.

The regulatory basis for these comments is 10 CFR 50.70 and 10 CFR 50, Appendix B, Criterion III. Design Control.

ANSWER:

Question (1)

The acceptance criteria (AC) text of ITAAC Items 1.a and 1.b in DCD Tier 1 Table 2.8-1 will be revised to include "floor thickness."

Question (2)

The design commitment in ITAAC Item 1.a in Table 2.8-1 is concerned with shielding and may stand alone without reference to DCD Tier 1 Section 2.2 ITAAC. There is overlap between the as-built concrete walls and floors inspected and verified by both ITAAC. ITAAC Item 1 in Table 2.2-4 has a larger scope to inspect and verify all structural walls and floors listed in Table 2.2-2, whereas ITAAC Item 1.a in Table 2.8-1 only inspects and verifies the walls and floors used for shielding. MHI will delete the reference to Table 2.2-4 from the Table 2.8-1 ITAAC to avoid confusion.

Impact on DCD

See attached mark-up of Tier 1 Table 2.8-1.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

Table 2.8-1 Radiation Protection Inspections, Tests, Analyses, and Acceptance Criteria

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1.a Shielding walls and floors listed in Table 2.2-2 are provided to maintain the maximum radiation levels specified in Table 2.8-2.	1.a Inspections of the as-built shielding walls and floors thicknesses will be performed. Refer to ~~Table 2.2-4 ITAAC Item 1.~~	1.a The as-built shielding walls and floors listed in Table 2.2-2 are consistent with the designed concrete wall and floor thicknesses. Refer to ~~Table 2.2-4 ITAAC Item 1.~~
1.b Shielding walls and floors in the auxiliary building are provided to maintain the maximum radiation levels specified in Table 2.8-2.	1.b Inspections of the as-built shielding walls and floors thicknesses will be performed.	1.b The as-built shielding walls and floors in the auxiliary building are consistent with the designed concrete wall and floor thicknesses.
2. Area radiation and airborne radioactivity monitoring systems are provided to monitor radioactivity concentrations.	2. Refer to Table 2.7.6.13-3.	2. Refer to Table 2.7.6.13-3.
3. Ventilation flow for the radioactive controlled area is provided to control the concentrations of airborne radioactivity specified in 10 CFR 20 Appendix B.	3. Tests of the as-built containment purge system and auxiliary building HVAC system will be performed.	3. The as-built containment purge system and auxiliary building HVAC provide ventilation flow to control the concentrations of airborne radioactivity specified in 10 CFR 20 Appendix B.

Table 2.8-2 Radiation Zone Designations

Zone	Dose Rate
I	≤0.25 mrem/h
II	≤1.0 mrem/h
III	≤2.5 mrem/h
IV	≤15.0 mrem/h
V	≤100.0 mrem/h
VI	≤1.0 rem/h
VII	≤10.0 rem/h
VIII	≤100.0 rem/h
IX	≤500.0 rad/h
X	>500.0 rad/h