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

July 7, 2010

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-10190

Subject: MHI's Response to US-APWR DCD RAI No.592-4673 Revision 2

References: 1) "Request for Additional Information No. 592-4673 Revision 2, SRP Section: 09.04.02 – Spent Fuel Pool Area Ventilation System Application Section: DCD Sections 9.4.2 & 9.4.3" dated June 8, 2010.

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.592-4673 Revision 2".

Enclosed is the response to one 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. 592-4673, Revision 2

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

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Docket No. 52-021
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Enclosure 1

UAP-HF-10190
Docket Number 52-021

Response to Request for Additional Information
No. 592-4673, Revision 2

July, 2010

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

07/07/2010

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO.592-4673 REVISION 2**
SRP SECTION:	**09.04.02 – Spent Fuel Pool Area Ventilation system**
APPLICATION SECTION:	**DCD Sections 9.4.2 and 9.4.3**
DATE OF RAI ISSUE:	**06/08/2010**

QUESTION NO. : 09.04.02-6

OPEN ITEM – Follow-up RAI

The staff finds the applicant's response to RAI No. 539-4329, Question 09.04.02-4 for issue (3) as incomplete. The applicant responded to issue (3) with the words:

MHI will revise the DCD Revision 2 Subsection 9.4.3.2.1 and amend the response to RAI No. 328-2436 Revision 1 Question 09.04.02-2 Part (3) below

"The minimum exhaust airflow from radiological controlled areas (RCA) that are served by the auxiliary building HVAC system is shown in Table 12.2-60 Parameters and Assumptions for Calculating Airborne Radioactive Concentrations (Reactor Building and Auxiliary Building) (Sheet 3 of 3)" of DCD Tier 2 Revision 1, as follows;

- Radiation Zone V to VI : 1,500 cfm
- Radiation Zone IV: 14,000 cfm
- Radiation Zone III : 76,000 cfm

The as-design supply airflow to each zone above is less than the as-design exhaust airflow rates, thus maintaining a negative pressure. The airflow rates to each zone are adjusted by the balancing dampers located at each supply and exhaust duct branch throughout the system. The Radiation Zones are shown on figure 12.3-1."

The staff believes that the there is a need to capture in the DCD that the flow rates in Table 12.2-60 (sheet 3 of 3) are minimum design values for the subject radiation zones. These threshold values are required to maintain Reactor Building airborne radioactive concentrations at acceptable levels. In addition, the staff found that 14.2.12.1.99 "Auxiliary Building HVAC System Preoperational Test" does not require the COL applicant to satisfy the flow rate requirements of Table 12.2-60.

The staff requests that the applicant amend the "Acceptance Criterion" of Preoperational Test 14.2.12.1.99 to include reference to the radiation zone flow rates of Table 12.2-60. In addition, the staff requests that the applicant amend Table 12.2-60 to indicate that the three flow rates for the subject radiation zones are minimum values.

ANSWER:

(1) The sixth item of Table 12.2-60 (sheet 3 of 3) will be revised to clarify the minimum exhaust airflow rates from radiological controlled areas (RCA).

(2) To ensure the exhaust airflow rates from RCA to maintain Reactor Building airborne radioactive concentrations at acceptable levels, the exhaust airflow rate is designed as described in the response to RAI No. 539-4329, Question 09.04.02-4. The acceptance criterion of preoperational test 14.2.12.99 will be revised to ensure the exhaust airflow rate from RCA.

Impact on DCD

For the sixth item the "Parameter/ Assumption" of Table 12.2-60 Sheet 3 of 3, it will be revised as follows:
"**Minimum** ~~Flow~~**flow** rate"

Acceptance Criterion of Preoperational Test 14.2.12.1.99 will be revised to add the following item.
"2. The auxiliary building HVAC system maintains the exhaust airflow rates from radiological controlled areas described in Table 12.2-60."

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.