MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

May 13, 2009

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-09228

Subject: MHI's Second Response to US-APWR DCD RAI No. 272-1585

References: 1) "Request for Additional Information No. 272-1585 Revision 0, SRP Section: 03.09.02 – Dynamic Testing and Analysis of Systems Structures and Components, Application Section: DCD, Tier 1 – Section 3.9.2.3," dated 3/10/2009.
2) Letter MHI Ref: UAP-HF-09149 from Y. Ogata (MHI) to the U.S. NRC, "MHI's Response to US-APWR DCD RAI No. 272-1585," dated April 9, 2009.

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. 272-1585 Revision 0."

Enclosed are the responses to question 33 of this RAI with 60 days response time (Reference 1). The response to the other questions 19-32 and 33-35 have been submitted with Reference 2.

The question 33 requests to revise the two technical reports, MUAP-07023-P "APWR 1/5 Scale Model Flow Test report" and MUAP-07027-P "Comprehensive Vibration assessment Program for US-APWR reactor Internals". The revised versions of these two reports are being submitted electronically in enclosed compact disc ("CD").

Additionally, MUAP-07027 Revision 1 also reflects the results of the analysis with the new data measured in the US-APWR Reactor Vessel Lower Plenum 1/7 Scale Model Flow Test, performed after the completion of Revision 0 analysis. Refinements of the vibration analysis with the RCP pulsation are also reflected. The results of the assessment incorporate with the analysis are equivalent with those of Revision 0.

As indicated in the enclosed materials, this submittal contains information that MHI considers proprietary, and therefore should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) as trade secrets and commercial or financial information which is privileged or confidential. A non-proprietary version of the document is also being submitted with the information identified as proprietary redacted and replaced by the designation "[ ]" (brackets).

In accordance with the NRC submittal procedures, this letter includes the Affidavit of Yoshiki Ogata (Enclosure 1) which identifies the reasons MHI respectfully requests that all materials designated as "Proprietary" in Enclosure 2 be withheld from public disclosure pursuant to 10

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C.F.R. § 2.390 (a)(4).

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of this submittal. His contact information is provided below.

Sincerely,

Y. Ogata

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

Enclosures:

1. Affidavit of Yoshiki Ogata
2. Response to Request for Additional Information No. 272-1585, Revision 0
3. CD : "Revised Technical Reports MUAP-07023 and MUAP-07027"

The files contained in CD are listed in Attachment 1 hereto.

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

Contact Information
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Enclosure 1

Docket No. 52-021
MHI Ref: UAP-HF-09228

MITSUBISHI HEAVY INDUSTRIES, LTD.

AFFIDAVIT

I, Yoshiki Ogata, state as follows:

1. I am General Manager, APWR Promoting Department, of Mitsubishi Heavy Industries, LTD ("MHI"), and have been delegated the function of reviewing MHI's US-APWR documentation to determine whether it contains information that should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) as trade secrets and commercial or financial information which is privileged or confidential.

2. In accordance with my responsibilities, I have reviewed the enclosed document entitled "APWR 1/5 Scale Model Flow Test report, MUAP-07023" and "Comprehensive Vibration assessment Program for US-APWR reactor Internals, MUAP-07027", and have determined that portions of the document contain proprietary information that should be withheld from public disclosure. Those pages contain proprietary information are identified with the label "Proprietary" on the top of the page, and the proprietary information has been bracketed with an open and closed bracket as shown here "[ ]". The first page of the document indicates that all information identified as "Proprietary" should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4).

3. The information identified as proprietary in the enclosed document has in the past been, and will continue to be, held in confidence by MHI and its disclosure outside the company is limited to regulatory bodies, customers and potential customers, and their agents, suppliers, and licensees, and others with a legitimate need for the information, and is always subject to suitable measures to protect it from unauthorized use or disclosure.

4. The basis for holding the referenced information confidential are as follows:

   A. They include the know-how and outputs of analyses used by mathematical models developed at significant cost to MHI. It required the performance of detailed design calculations, supporting analyses and testing extending over several years. The referenced information is not available in public sources and could not be gathered readily from other publicly available information. MHI knows of no way the information could be lawfully acquired by organizations or individuals outside of MHI.

   B. They include the information that is provided to MHI pursuant to licensing agreements with third parties (the "Licensors") for MHI's use and under the obligation to maintain their confidentiality. Furthermore, MHI has an ownership interest in the referenced information by having paid significant sums of money to the Licensors for the rights to the intellectual property therein such that public disclosure of the materials would adversely affect MHI's competitive position.

   C. They include the information directly referred from books the copyrights of which are

reserved.

5. The referenced information is being furnished to the Nuclear Regulatory Commission ("NRC") in confidence and solely for the purpose of information to the NRC staff.

6. Public disclosure of the referenced information would assist competitors of MHI in their design of new nuclear power plants without the costs or risks associated with the design of new systems and components. Disclosure of the information identified as proprietary would therefore have negative impacts on the competitive position of MHI and the Licensors in the U.S. nuclear plant market.

I declare under penalty of perjury that the foregoing affidavit and the matters stated therein are true and correct to the best of my knowledge, information and belief.

Executed on this 13th day of May 2009.

Y. Ogata

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

Enclosure 2

UAP-HF-09228
Docket No. 52-021

Response to Request for the Question 33
of
Additional Information No. 272-1585, Revision 0

May, 2009
(Non-Proprietary)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

5/13/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 272-1585**
SRP Section:	**03.09.02 – Dynamic Testing and Analysis of Systems Structures and Components**
APPLICATION SECTION:	**3.9.2.3**
DATE OF RAI ISSUE:	**03/10/09**

QUESTION NO.: RAI 3.9.2-33

In MHI technical report MUAP-07023-P the applicant described the 1/5 scale model tests performed to analyze the dynamic responses of the reactor internals, and the details of the vibration analysis of the reactor internals are presented in the technical report MUAP-07027-P.
In general, the staff found the text provided in the technical reports MUAP-07023-P and MUAP-07027-P inadequate. For example, the 1/5 Scale Model Flow Test Report has only 3 pages of text. It is therefore rather difficult to evaluate the data and results included in these reports. In order to be able to complete the review, without having to generate many additional RAIs, the applicant is requested to provide revised versions of the MHI technical reports MUAP-07023-P and MUAP-07027-P with expanded text to provide sufficient explanation of the included tests and results. On each table and figure included in these reports, the applicant is requested to give the relevant information, such as: considered geometry (e.g. SMT, prototype of US-APWR, J-APWR or 4-loop PWR) and source of data (e.g. measurements, FE simulation, or scaling up from SMT results). The requested revisions of the reports would allow the staff to better understand the technical information in the submitted documents and related issues addressed in the DCD. The requested information is needed to assure conformance with GDC-1 and 4.

ANSWER:

The technical reports MUAP-07023-P "APWR Reactor Internals 1/5 Scale Model Test Report" and MUAP-07027-P "Comprehensive Vibration Assessment Program for US-APWR Reactor Internals" are revised according to the requests.

Impact on DCD

There is no impact on the DCD.

Impact on COLA

There is no impact on the COLA.

Impact on PRA

There is no impact on the PRA.

ATTACHMENT 1

FILE CONTAINED IN CD

CD : "Revised Technical Reports MUAP-07023 and MUAP-07027"

Contents of CD

Document No.	Title	File Size	Sensitivity Level
MUAP-07023-P.pdf	APWR 1/5 Scale Model Flow Test report	50.6MB	Proprietary
MUAP-07023-NP.pdf	APWR 1/5 Scale Model Flow Test report	39.9MB	Non-Proprietary
MUAP-07027-P.pdf	Comprehensive Vibration assessment Program for US-APWR reactor Internals	17.3MB	Proprietary
MUAP-07027-NP.pdf	Comprehensive Vibration assessment Program for US-APWR reactor Internals	8.1MB	Non-Proprietary