MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

February 9, 2012

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-12037

Subject: **Revised response to US-APWR DCD RAI No.869-6139 REVISION 3 (SRP 04.02)**

Reference:
1) "REQUEST FOR ADDITIONAL INFORMATION 869-6139 REVISION 3, SRP Section: 04.02, Application Section: Chapter 4.2" dated on November 14, 2011
2) "Response to US-APWR DCD RAI No.869-6139 REVISION 3" dated on December 14, 2011

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "Revised response to US-APWR DCD RAI No.869-6139 REVISION 3".

In the enclosed document, MHI provides revised response to RAI in Reference 1 in order to clarify the definition of year in the original response (Reference 2).

As indicated in the enclosed materials, this document 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. The proprietary information is bracketed by the designation "[ ]".

This letter includes a copy of the proprietary version (Enclosure 2), a copy of the non-proprietary version (Enclosure 3) and 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 C.F.R. § 2.390 (a)(4).

Please contact Mr. Joseph Tapia, General Manager of Licensing Department, 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,
Director- APWR Promoting Department
Mitsubishi Heavy Industries, LTD.

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NRO

Enclosures:

1. Affidavit of Yoshiki Ogata

2. Revised response to US-APWR DCD RAI No.869-6139 REVISION 3 (Proprietary)

3. Revised response to US-APWR DCD RAI No.869-6139 REVISION 3 (Non-Proprietary)

CC: J. A. Ciocco
J. Tapia

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ENCLOSURE 1

Docket No.52-021
MHI Ref: UAP-HF-12037

MITSUBISHI HEAVY INDUSTRIES, LTD.

AFFIDAVIT

I, Yoshiki Ogata, being duly sworn according to law, depose and state as follows:

1. I am Director, 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 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 "Revised response to US-APWR DCD RAI No.869-6139 REVISION 3" and have determined that portions of the report contain proprietary information that should be withheld from public disclosure. Those pages containing 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 technical report indicates that all information identified as "Proprietary" should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a).

3. The information in the report identified as proprietary by MHI 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 is that it describes the unique code and files developed by MHI for the fuel of the US-APWR. These were developed at significant cost to MHI, since they required the performance of detailed calculations, 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.

5. The referenced information is being furnished to the Nuclear Regulatory Commission ("NRC") in confidence and solely for the purpose of supporting the NRC staff's review of MHI's Application for certification of its US-APWR Standard Plant Design.

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 fuel systems and components. Disclosure of the information identified as proprietary would therefore have negative impacts on the competitive position of MHI 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 9th day of February, 2012.

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

Enclosure 3

UAP-HF-12037
Docket No.52-021

Revised response to US-APWR DCD RAI No.869-6139 REVISION 3

February 2012
(Non-Proprietary)

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION 869-6139 (R3)

2/9/2012

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

RAI NO.:	**NO. 869-6139 Revision 3**
SRP SECTION:	**04.02 - Fuel System Design**
APPLICATION SECTION:	**04.02**
DATE OF RAI ISSUE:	**11/14/2011**

QUESTION NO. : 04.02-45
Question contains proprietary information.

Follow-on to 4.2.8
The response to RAI question 04.02-8 states that the most dominant phenomenon limiting control rod operational lifetime is irradiation swelling of the cladding. The maximum increase of the control rod diameter during its lifetime is [ ]. The RAI response does not provide any details on how the [ ] relates to the DCD 15 calendar year lifetime. Provide detailed assumptions which are used to relate the 15 calendar years to [ ] and justify why the assumptions are conservative to expected plant operation.

ANSWER (REVISION 1):

Neutron fluence is the dominant factor for the irradiation swelling of RCC cladding. The neutron fluence level over a time period of 15 Effective Full Power Years (EFPY) is [ ] assuming a core average linear heat rate of 4.65 kW/ft at normal operation. In addition, applying a safety factor of [ ] to this fluence level, [ ], is conservatively applied to the evaluation of control rod diameter swelling. With these inputs, a maximum increase of [ ] has been determined.

Impact on DCD

There is no impact on the DCD.

Impact on R-COLA

There is no impact on the R-COLA.

Impact on S-COLA

There is no impact on the S-COLA.

Impact on PRA

There is no impact on the PRA.

Impact on Technical/Topical Report

There is no impact on a Technical/Topical Report.

This completes MHI's response to the NRC's question.