


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

June 14, 2013

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC20555-0001

Attention: Mr. Jeffrey A. Ciocco

Docket No. 52-021
MHI Ref: UAP-HF-13134

Subject: US-APWR Core Coolability Evaluation with Deformed Grid Spacers

- References:** 1) Letter (UAP-HF-13133) from Y. Ogata (MHI) to U.S. NRC, "US-APWR Fuel Seismic Closure Plan" dated June 14, 2013.
- 2) "NOTICE OF FORTHCOMING CLOSED MEETING WITH MITSUBISHI HEAVY INDUSTRIES, LTD., TO DISCUSS MITSUBISHI HEAVY INDUSTRIES, LTD'S TECHNICAL REPORT MUAP-08007, "EVALUATION RESULTS OF US-APWR FUEL SYSTEM STRUCTURAL RESPONSE TO SEISMIC AND LOCA LOADS" (ML13142A463) dated May 23, 2013.

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") a document entitled "US-APWR Core Coolability Evaluation with Deformed Grid Spacers."

In Enclosure 2 to this letter, MHI proposes a method of core coolability evaluation with deformed grid spacers. As indicated in Reference 1, this enclosure is intended to support the US-APWR fuel seismic closure plan. The method described in the enclosure was presented to the NRC during a public meeting on May 30, 2013 (Reference 2) and will also be included in Technical Report "Evaluation Results of US-APWR Fuel System Structural Response to Seismic and LOCA Loads", MUAP-08007, as indicated in Reference 1.

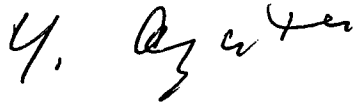
As indicated in the enclosed materials, this document contains information that MHI considers proprietary, and therefore should be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4) as trade secrets and commercial or financial information which is privileged or confidential. A non-proprietary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

DOB1
NRD

Sincerely,

A handwritten signature in black ink, appearing to read "Y. Ogata". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent.

Yoshiki Ogata,
Executive Vice President
Mitsubishi Nuclear Energy Systems, Inc.
On behalf of Mitsubishi Heavy Industries, Ltd.

Enclosures:

1. Affidavit of Yoshiki Ogata
2. US-APWR Core Coolability Evaluation with Deformed Grid Spacers (Proprietary version)
3. US-APWR Core Coolability Evaluation with Deformed Grid Spacers (Non-proprietary version)

CC: J. A. Ciocco
J. Tapia

Contact Information

Joseph Tapia, General Manager of Licensing Department
Mitsubishi Nuclear Energy Systems, Inc.
1001 19th Street North, Suite 710
Arlington, VA22209
E-mail: joseph_tapia@mnes-us.com
Telephone: (703) 908-8055

ENCLOSURE1

Docket No. 52-021
MHI Ref: UAP-HF-13134

MITSUBISHI HEAVY INDUSTRIES, LTD. AFFIDAVIT

I, Yoshiki Ogata, state as follows:

1. I am Executive Vice President of Mitsubishi Nuclear Energy System, Inc. and have been delegated the function of reviewing MITSUBISHI HEAVY INDUSTRIES, LTD's ("MHI") 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 "US-APWR Core Coolability Evaluation with Deformed Grid Spacers" dated June 2013, and have determined that portions of the document 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 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 enclosed information confidential is that the enclosed describes information related to a core coolability evaluation methodology with deformed grid spacers, unique to the US-APWR design.
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. The referenced information is not available in public sources and could not be gathered readily from other publicly available information. Other than through the provisions in paragraph 3 above, MHI knows of no way the information could be lawfully acquired by organizations or individuals outside of MHI.
7. Public disclosure of the referenced information would assist competitors of MHI in their design of new nuclear power plants without incurring the costs or risks associated with the design of the subject systems. Therefore, disclosure of the information contained in the referenced document would have the following negative impacts on the competitive position of MHI in the U.S. nuclear plant market:
 - A. Loss of competitive advantage due to the costs associated with development of the thermal design. Providing public access to such information permits competitors to duplicate or mimic the methodology without incurring the associated costs.

- B. Loss of competitive advantage of the US-APWR created by benefits of enhanced plant safety, and reduced operation and maintenance costs associated with the thermal design.

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 14th day of June, 2013.

A handwritten signature in black ink, appearing to read "Y. Ogata". The signature is written in a cursive style with a large initial "Y" and a stylized "Ogata".

Yoshiaki Ogata,
Executive Vice President
Mitsubishi Nuclear Energy Systems, Inc.

Docket No. 52-021
MHI Ref: UAP-HF-13134

Enclosure 3

UAP-HF-13134
Docket No. 52-021

US-APWR Core Coolability Evaluation with Deformed Grid Spacers

June 2013
(Non-Proprietary)

1. Introduction

While the Axial Flow Damping (AFD) effect is credited in the US-APWR fuel seismic response analysis, reduced RCS flow, caused by an Reactor Coolant Pump (RCP) coastdown, for example, would decrease the AFD effect and may cause limited plastic deformation of grid spacers in peripherally located fuel assemblies.

[

]

2. Analysis Model

[

]

3. Analysis Conditions

[

]

4. Preliminary Results

Figure 4 shows the results of a sample preliminary analysis. [

]

5. Conclusion

[

]

6. References

- 1) Letter (UAP-HF-13133) from Y. Ogata (MHI) to U.S. NRC, "US-APWR Fuel Seismic Closure Plan" dated June 14, 2013.

[

]



