



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

August 2, 2013

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-13193

Subject: MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5)

- References:**
- 1) Letter MHI Ref. UAP-HF-09360 from Y. Ogata (MHI) to U.S. NRC, "MHI's Responses to US-APWR DCD RAI No. 342-2000," dated July 3, 2009, ML091900558.
 - 2) "Request for Additional Information No.1025-7092, SRP Section: 03.07.02 – Seismic System Analysis, Application Section: 3.7.2," dated April 29, 2013, ML13119A212.
 - 3) "Request for Additional Information No.1040-7139, SRP Section: 03.08.01 – Seismic System Analysis, Application Section: 3.8.1," dated July 1, 2013, ML13182A151.
 - 4) "Request for Additional Information No.1044-7140, SRP Section: 03.08.04 – Seismic System Analysis, Application Section: 3.8.4," dated July 8, 2013, ML13189A012.
 - 5) "Request for Additional Information No.1045-7141, SRP Section: 03.08.05 – Seismic System Analysis, Application Section: 3.8.5," dated July 8, 2013, ML13189A011.

With this letter, Mitsubishi Heavy Industries, Ltd. (MHI) transmits to the U.S. Nuclear Regulatory Commission (NRC) a document entitled "MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5)." Two versions of the document are being submitted, a proprietary (non-public) version and a non-proprietary (public) version.

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 non-proprietary version of the document is also being submitted with the information identified as proprietary redacted and replaced by the designation "[]."

DO81
NRC

This letter includes a copy of the proprietary (non-public) version (Enclosure 2), a copy of the non-proprietary (public) 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).

Attachment 1 provides a listing of the files contained in Enclosures 2 and 3. Attachment 2 provides a listing of those RAI responses contained in Enclosures 2 and 3.

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 submittals. His contact information is provided below.

Sincerely,



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

Enclosures:

1. Affidavit of Yoshiki Ogata
2. CD 1: MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5) (Proprietary version)
3. CD 2: MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5) (Non-proprietary version)

CC: J. A. Ciocco
J. Tapia

Contact Information

Joseph Tapia, General Manager of Licensing Department
Mitsubishi Nuclear Energy Systems, Inc.
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Arlington, VA 22209
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Telephone: (703) 908 – 8055

ATTACHMENT – 1

FILES CONTAINED IN CDs

CD 1: MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5), Version Containing Proprietary Information

Contents of CD1

This CD includes RAI responses containing proprietary information.

| <u>File Name</u> | <u>Size</u> | <u>Sensitivity Level</u> |
|---|-------------|---------------------------|
| 1. Includes proprietary information | | |
| RAI 342-2000 Q03.08.04-12(Proprietary).pdf | 70 KB | Proprietary |
| RAI 1040-7139 Q03.08.01-21(Proprietary).pdf | 179 KB | Proprietary |
| RAI 1044-7140 Q03.08.04-53(Proprietary).pdf | 363 KB | Proprietary |
| RAI 1044-7140 Q03.08.04-58(Proprietary).pdf | 996 KB | Proprietary |
| 2. Others (No relating proprietary information) | | |
| RAI 1025-7092 Q03.07.02-225.pdf | 149 KB | None |
| 270200-Saturated_RAI 1025 Q03.07.02-225 Rev. 0 data_07.01.2013.zip | 98 KB | Proprietary ¹⁾ |
| 270200-Unsaturated_RAI 1025 Q03.07.02-225 Rev. 0 data_07.01.2013.zip | 98 KB | Proprietary ¹⁾ |
| RAI 1040-7139 Q03.08.01-15.pdf | 92 KB | None |
| RAI 1040-7139 Q03.08.01-16.pdf | 65 KB | None |
| RAI 1040-7139 Q03.08.01-17.pdf | 69 KB | None |
| RAI 1040-7139 Q03.08.01-18.pdf | 92 KB | None |
| RAI 1040-7139 Q03.08.01-19.pdf | 91 KB | None |
| RAI 1040-7139 Q03.08.01-20.pdf | 88 KB | None |
| RAI 1044-7140 Q03.08.04-54.pdf | 85 KB | None |
| RAI 1044-7140 Q03.08.04-55.pdf | 3.7 MB | None |
| RAI 1044-7140 Q03.08.04-57.pdf | 88 KB | None |
| RAI 1045-7141 Q03.08.05-47.pdf | 91 KB | None |
| RAI 1045-7141 Q03.08.05-49.pdf | 1.03 MB | None |
| RAI 1045-7141 Q03.08.05-50.pdf | 60 KB | None |
| RAI 1045-7141 Q03.08.05-52.pdf | 4.49 MB | None |
| RAI 1045-7141 Q03.08.05-58.pdf | 91 KB | None |
| RAI 1045-7141 Q03.08.05-62.pdf | 60 KB | None |
| RAI 1045-7141 Q03.08.05-63.pdf | 89 KB | None |
| RAI 1045-7141 Q03.08.05-65.pdf | 63 KB | None |
| RAI 1045-7141 Q03.08.05-66.pdf | 63 KB | None |
| RAI 1045-7141 Q03.08.05-67.pdf | 91 KB | None |

Note:

1) Date file include proprietary information.

CD 2: MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5), Version Withholding Proprietary Information

Contents of CD2

This CD includes RAI responses withholding proprietary information.

| <u>File Name</u> | <u>Size</u> | <u>Sensitivity Level</u> |
|---|-------------|--------------------------|
| 1. Included proprietary information | | |
| RAI 342-2000 Q03.08.04-12(Non-Proprietary).pdf | 69 KB | Non-Proprietary |
| RAI 1040-7139 Q03.08.01-21(Non-Proprietary).pdf | 173 KB | Non-Proprietary |
| RAI 1044-7140 Q03.08.04-53(Non-Proprietary).pdf | 94 KB | Non-Proprietary |
| RAI 1044-7140 Q03.08.04-58(Non-Proprietary).pdf | 79 KB | Non-Proprietary |
| 2. Others (No relating proprietary information) | | |
| RAI 1025-7092 Q03.07.02-225.pdf | 149 KB | None |
| RAI 1040-7139 Q03.08.01-15.pdf | 92 KB | None |
| RAI 1040-7139 Q03.08.01-16.pdf | 65 KB | None |
| RAI 1040-7139 Q03.08.01-17.pdf | 69 KB | None |
| RAI 1040-7139 Q03.08.01-18.pdf | 92 KB | None |
| RAI 1040-7139 Q03.08.01-19.pdf | 91 KB | None |
| RAI 1040-7139 Q03.08.01-20.pdf | 88 KB | None |
| RAI 1044-7140 Q03.08.04-54.pdf | 85 KB | None |
| RAI 1044-7140 Q03.08.04-55.pdf | 3.7 MB | None |
| RAI 1044-7140 Q03.08.04-57.pdf | 88 KB | None |
| RAI 1045-7141 Q03.08.05-47.pdf | 91 KB | None |
| RAI 1045-7141 Q03.08.05-49.pdf | 1.03 MB | None |
| RAI 1045-7141 Q03.08.05-50.pdf | 60 KB | None |
| RAI 1045-7141 Q03.08.05-52.pdf | 4.49 MB | None |
| RAI 1045-7141 Q03.08.05-58.pdf | 91 KB | None |
| RAI 1045-7141 Q03.08.05-62.pdf | 60 KB | None |
| RAI 1045-7141 Q03.08.05-63.pdf | 89 KB | None |
| RAI 1045-7141 Q03.08.05-65.pdf | 63 KB | None |
| RAI 1045-7141 Q03.08.05-66.pdf | 63 KB | None |
| RAI 1045-7141 Q03.08.05-67.pdf | 91 KB | None |

ATTACHMENT – 2

LIST OF RAI RESPONSES

| RAI Letter No. | eRAI No. | Question No. | Question No. (Sub-number) |
|---------------------------|-----------------|---------------------|--------------------------------------|
| 342 | 2000 | 03.08.04-12 | |
| 1025 | 7092 | 03.07.02-225 | |
| 1040 | 7139 | 03.08.01-15 | |
| 1040 | 7139 | 03.08.01-16 | |
| 1040 | 7139 | 03.08.01-17 | |
| 1040 | 7139 | 03.08.01-18 | |
| 1040 | 7139 | 03.08.01-19 | |
| 1040 | 7139 | 03.08.01-20 | |
| 1040 | 7139 | 03.08.01-21 | |
| 1044 | 7140 | 03.08.04-53 | |
| 1044 | 7140 | 03.08.04-54 | |
| 1044 | 7140 | 03.08.04-55 | |
| 1044 | 7140 | 03.08.04-57 | |
| 1044 | 7140 | 03.08.04-58 | |
| 1045 | 7141 | 03.08.05-47 | |
| 1045 | 7141 | 03.08.05-49 | |
| 1045 | 7141 | 03.08.05-50 | |
| 1045 | 7141 | 03.08.05-52 | |
| 1045 | 7141 | 03.08.05-58 | |
| 1045 | 7141 | 03.08.05-62 | |
| 1045 | 7141 | 03.08.05-63 | |
| 1045 | 7141 | 03.08.05-65 | |
| 1045 | 7141 | 03.08.05-66 | |
| 1045 | 7141 | 03.08.05-67 | |

Enclosure 1

MITSUBISHI HEAVY INDUSTRIES, LTD. AFFIDAVIT

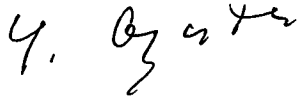
I, Yoshiki Ogata, state as follows:

1. I am Executive Vice President of Mitsubishi Nuclear Energy Systems, 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 "MHI's Responses to US-APWR DCD RAIs Nos. 342-2000 (3.8.4), 1025-7092 (3.7.2), 1040-7139 (3.8.1), 1044-7140 (3.8.4), and 1045-7141 (3.8.5)" dated August 2 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 referenced information confidential are as follows:
 - A. They include the output of analyses used by mathematical models developed at significant cost to MHI, since it required the performance of detailed design calculations, supporting analyses and testing. Information contained in the analyses is not available in public sources and could not be gathered readily from other publicly available information.
 - B. They include 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.
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 methodology of modeling and analysis for building structure design. Providing public access to such information permits competitors to duplicate or mimic the methodology without incurring the associated costs.

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 2nd day of August, 2013.

A handwritten signature in black ink, appearing to read "Y. Ogata". The signature is written in a cursive, somewhat stylized font.

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