



MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

February 19, 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-13027

Subject: Transmittal of Technical Report "Turbine Building Model Properties, SSI Analyses, and Structural Integrity Evaluation" (MUAP-11002, Revision 2)

Reference: 1) Letter MHI Ref. UAP-HF-12280 from Y. Ogata ("MHI") to U.S. NRC, "Updated Closure Plan for US-APWR Seismic and Structural Analyses-Schedule Improvement," dated October 12, 2012, ML12290A009.
2) "Notice of Forthcoming Public Meeting with Mitsubishi Heavy Industries, Ltd. To Discuss The Response to the Nuclear Regulatory Commission Letter Concerning the United States-Advanced Pressurized Water Reactor Seismic and Structural Analysis," dated September 27, 2012, ML12270A176.

With this letter, Mitsubishi Heavy Industries, Ltd. (MHI) transmits to the U.S. Nuclear Regulatory Commission (NRC) the technical report "Turbine Building Model Properties, SSI Analyses, and Structural Integrity Evaluation" (MUAP-11002, Revision 2), scheduled for submittal in accordance with Reference 1. As committed in the meeting noticed in Reference 2, this document received COL applicant participation, an internal peer review, and an external/independent review to ensure high quality and a technically complete submittal. Two versions of this Technical Report are being submitted, a proprietary (non-public) version and a non-proprietary (public) version.

Each version of enclosed document is included on a separate compact disc (CD). As indicated in the enclosed materials, this document contains information that MHI considers proprietary, and therefore should be withheld from public disclosure pursuant to the 10 CFR § 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 CFR § 2.390 (a)(4).

Attachment 1 is a listing of the files contained in Enclosure 1 and Enclosure 2. Attachment 2 is a matrix which identifies sections of the report, where applicable, which contain information requested by the staff in various Requests for Additional Information (RAIs), and is being provided for the staff's convenience.

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 letter. His contact information is provided below.

D081
NRD

Sincerely,

A handwritten signature in black ink, appearing to read 'Y. Ogata' with a stylized flourish at the end.

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

Enclosures :

1. Affidavit of Yoshiki Ogata
2. CD 1: "Turbine Building Model Properties, SSI Analyses, and Structural Integrity Evaluation"
– Proprietary version
3. CD 2: "Turbine Building Model Properties, SSI Analyses, and Structural Integrity Evaluation"
– Non-Proprietary version

The file contained on each CD is listed in Attachment 1.

CC: J. A. Ciocco
J. Tapia

Contact Information

Joseph Tapia, General Manager of Licensing Department
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Telephone:(703) 908-8055

ENCLOSURE 1

Docket No. 52-021
MHI Ref: UAP-HF-13027

MITSUBISHI HEAVY INDUSTRIES, LTD.

AFFIDAVIT

I, Yoshiki Ogata, 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 public disclosure pursuant to 10 CFR § 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, and have determined that portions of the document contains 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 open and closed brackets, 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 CFR § 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 bases 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. The information out of the analyses is not available in public sources and could not be gathered readily from other publicly available information.
 - B. They include the information that is provided to MHI pursuant to licensing agreements with third parties (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. 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 19th day of February, 2013.

A handwritten signature in black ink, appearing to read 'Y. Ogata'.

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

ATTACHMENT – 1

FILES CONTAINED IN CDs

CD 1: Technical Report,
MUAP-11002 Revision 2, "Turbine Building Model Properties, SSI Analyses, and Structural Integrity Evaluation (Proprietary Version),"
– Version Containing Proprietary Information

Contents of CD1

| <u>File Name</u> | <u>Size</u> | <u>Sensitivity Level</u> |
|--|-------------|--------------------------|
| MUAP-11002_R2(Proprietary version).pdf | 18.7MB | Proprietary |

Contents of CD2

CD 2: Technical Report,
MUAP-11002 Revision 2, "Turbine Building Model Properties, SSI Analyses, and Structural Integrity Evaluation (Non-Proprietary Version),"
– Version Not Containing Proprietary Information

| <u>File Name</u> | <u>Size</u> | <u>Sensitivity Level</u> |
|--|-------------|--------------------------|
| MUAP-11002_R2(Non-Proprietary version).pdf | 3.45MB | Non-Proprietary |

ATTACHMENT – 2
REPORT SECTIONS CONTAINING INFORMATION REQUESTED BY NRC REQUESTS FOR
ADDITIONAL INFORMATION (RAIs)

| DCD Sect | RAI | eRAI | Question # | Section, paragraph, figure, and/or table where question in answered ⁽¹⁾ |
|----------|-----|------|-------------|--|
| 3.7.2 | 766 | 5819 | 03.07.02-40 | N/A - Standalone Response |
| 3.7.2 | 766 | 5819 | 03.07.02-41 | Section 3.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-42 | Section 3.0 |
| 3.7.2 | 766 | 5819 | 03.07.02-43 | Figures 3.1.1-1 and 3.1.1-2 |
| 3.7.1 | 766 | 5819 | 03.07.02-44 | Section 3.0 |
| 3.7.1 | 766 | 5819 | 03.07.02-45 | Sections 5.1.1 and 5.1.5 |
| 3.7.2 | 766 | 5819 | 03.07.02-46 | Section 4.3 |
| 3.7.2 | 766 | 5819 | 03.07.02-47 | Section 2.5 |
| 3.7.2 | 766 | 5819 | 03.07.02-48 | Section 2.3.2.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-49 | Section 1.0 - 3rd paragraph |
| 3.7.2 | 766 | 5819 | 03.07.02-50 | Section 1.1.4 |
| 3.7.2 | 766 | 5819 | 03.07.02-51 | Section 4.3.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-52 | Figures 1.1-1, 1.1-2, 1.1-3, 1.1.1-1, 1.1.1-2, 1.1.2-1, 4.3-1, 4.3-2, and 4.3-3 |
| 3.7.2 | 766 | 5819 | 03.07.02-53 | Sections 3.1.4 and 4.3.2 |
| 3.7.2 | 766 | 5819 | 03.07.02-54 | Section 4.2.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-55 | Section 1.0 |
| 3.7.2 | 766 | 5819 | 03.07.02-56 | N/A - Standalone Response |
| 3.7.2 | 766 | 5819 | 03.07.02-57 | Section 4.2.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-58 | Section 2.3.1 (Descriptions to be deleted) |
| 3.7.2 | 766 | 5819 | 03.07.02-59 | Tables 3.1.2-1, 3.1.2-2, 3.1.2-3, 3.1.2-4, 3.1.2-5, 3.1.2-6 and Figures 3.1.2-1, 3.1.2-2 and 3.1.2-3 |
| 3.7.2 | 766 | 5819 | 03.07.02-60 | Section 7.0 (Descriptions to be deleted) |
| 3.7.2 | 766 | 5819 | 03.07.02-61 | Section 4.2.3 |
| 3.7.2 | 766 | 5819 | 03.07.02-62 | Section 4.3.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-63 | N/A - Standalone Response |
| 3.7.2 | 766 | 5819 | 03.07.02-64 | Section 4.3.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-65 | Section 4.3.1 |
| 3.7.2 | 766 | 5819 | 03.07.02-66 | Section 4.3.2 |
| 3.7.2 | 766 | 5819 | 03.07.02-67 | Section 7.0 (Descriptions to be deleted) |
| 3.8.4 | 767 | 5821 | 03.08.04-50 | Sections 6.1 and 6.2 |
| 3.8.4 | 767 | 5821 | 03.08.04-51 | N/A - Standalone Response |

| DCD Sect | RAI | eRAI | Question # | Section, paragraph, figure, and/or table where question is answered ⁽¹⁾ |
|----------|-----|------|--------------|--|
| 3.7.2 | 909 | 6315 | 03.07.02-181 | Section 4.2.1 |
| 3.7.2 | 909 | 6315 | 03.07.02-182 | Section 1.0 - 3rd paragraph |
| 3.7.2 | 909 | 6315 | 03.07.02-183 | Table 3.1.1-2 |
| 3.7.2 | 909 | 6315 | 03.07.02-184 | Section 1.1.4 |
| 3.7.2 | 909 | 6315 | 03.07.02-185 | Section 2.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-186 | Section 2.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-187 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-188 | Section 2.3.2.1 |
| 3.7.2 | 909 | 6315 | 03.07.02-189 | Section 3.1.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-190 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-191 | Sections 2.4.1 and 3.1.3 |
| 3.7.2 | 909 | 6315 | 03.07.02-192 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-193 | Section 5.1.1 |
| 3.7.2 | 909 | 6315 | 03.07.02-195 | Section 5.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-196 | Section 5.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-197 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-198 | Sections 6.5 and 6.6 |
| 3.7.2 | 909 | 6315 | 03.07.02-199 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-200 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-201 | Section 6.1 |
| 3.7.2 | 909 | 6315 | 03.07.02-202 | Section 6.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-203 | N/A - Standalone Response |
| 3.7.2 | 909 | 6315 | 03.07.02-204 | Multiple Sections |
| 3.7.2 | 909 | 6315 | 03.07.02-205 | Section 4.2.1 |
| 3.7.2 | 909 | 6315 | 03.07.02-206 | Section 2.5 |
| 3.7.2 | 909 | 6315 | 03.07.02-207 | Sections 3.1.4 and 4.3.2 |
| 3.7.2 | 909 | 6315 | 03.07.02-208 | Section 2.3.1 (Descriptions to be deleted) |
| 3.7.2 | 909 | 6315 | 03.07.02-209 | Section 4.2.3 |
| 3.7.2 | 909 | 6315 | 03.07.02-210 | Section 4.3.1 |
| 3.7.2 | 909 | 6315 | 03.07.02-211 | N/A - Standalone Response |

Note (1) Standalone responses are indicated where the response involves specific clarification or justification.