MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

February 28, 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-13053

Subject: **Transmittal of "Containment Internal Structure Design and Validation Methodology" (MUAP-11013), Revision 2**

Reference:
1) Letter MHI Ref. UAP-HF-13034 from Y. Ogata (MHI) to U.S. NRC, "Updated Closure Plan for US-APWR Seismic and Structural Analyses - Schedule Improvement," dated February 15, 2013.
2) Letter MHI Ref. UAP-HF-12330 from Y. Ogata (MHI) to U.S. NRC, "Transmittal of Research Achievements of SC Structures and Strength Evaluation of US-APWR SC Modules Based on 1/10th Scale Test Results (MUAP-11005), Revision 1," dated December 28th, 2012, ML13007A131.
3) "Notice of Forthcoming Public Meeting with Mitsubishi Heavy Industries, Ltd. To Discuss Its 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 "Containment Internal Structure Design and Validation Methodology," MUAP-11013, Revision 2, scheduled for submittal in accordance with Reference 1. This revision of the Technical Report includes the summary of procedures and results for SC Confirmatory Tests and discussion for the results from the benchmarking analysis of the SC wall component and structure tests in the experimental database presented in Technical Report MUAP-11005, Revision 1 (Reference 2). As committed in the meeting noticed in Reference 3, this document underwent reviews by COL applicants, an internal peer review, and an external/independent review to ensure high quality and a technically complete submittal. In certain cases, this report refers to revisions of related Technical Reports that will be submitted to the staff for review in February 2013 to maintain the consistency of the contents between the reports.

Each version of the 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 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 "[ ]."

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In addition, this document includes certain information designated, pursuant to the Commission guidance, as sensitive unclassified non-safeguards information referred to as security-related information (SRI) that is to be withheld from public disclosure under 10 CFR § 2.390. The information that is SRI is identified by brackets "{ }." The non-proprietary (public) version of the document omits the SRI and is suitable for public disclosure. In the public version of the document, the SRI is replaced by the designation "Security Related Information - Withheld Under 10 CFR 2.390."

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 CFR § 2.390(a)(4).

Attachment 1 is a list of the files contained in Enclosure 2 and Enclosure 3.

Attachment 2 is a combined matrix which identifies sections of the six Steel-Concrete Composite (SC) Wall-related MUAP technical reports where information requested by the staff in various RAIs is contained, as appropriate. The six SC Wall-related MUAPs are the current revisions of MUAPs 11005, 11013, 11018, 11019, 11020, and 12006. This version of the Attachment 2 matrix is being provided in each of the four SC Wall-related MUAPs being submitted in February 2013 to provide an integrated roadmap of the six related MUAPs and related RAI responses for or the staff's convenience. This Attachment 2 supersedes the separate Attachment 2s previously submitted with MUAP-11005, Rev. 1, and MUAP-11019, Rev. 1.

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.

Enclosures:

1. Affidavit of Yoshiki Ogata

2. CD 1: "Containment Internal Structure Design and Validation Methodology" – Proprietary and SRI-included version

3. CD 2: "Containment Internal Structure Design and Validation Methodology" – Non-Proprietary and SRI-excluded version

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

CC: J. A. Ciocco
J. Tapia

Contact Information
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ENCLOSURE – 1

Docket No. 52-021
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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 documents, and have determined that portions of the documents 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 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 extensive 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 (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. 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 28th day of February, 2013.

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

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ATTACHMENT – 1

FILES CONTAINED IN CDs

CD 1: Technical Report,
MUAP-11013 Revision 2, "Containment Internal Structure Design and Validation Methodology (Proprietary Version)" – Versions Containing Proprietary and Security Related Information

Contents of CD1

File Name	Size	Sensitivity Level
MUAP-11013-P_R2_1.pdf	39.4MB	SRI included, Proprietary
MUAP-11013-P_R2_2.pdf	44.3MB	SRI included, Proprietary
MUAP-11013-P_R2_3.pdf	48.7MB	SRI included, Proprietary
MUAP-11013-P_R2_4.pdf	44.9MB	SRI included, Proprietary
MUAP-11013-P_R2_5.pdf	40.8MB	SRI included, Proprietary
MUAP-11013-P_R2_6.pdf	42.6MB	SRI included, Proprietary
MUAP-11013-P_R2_7.pdf	41.0MB	SRI included, Proprietary
MUAP-11013-P_R2_8.pdf	38.9MB	SRI included, Proprietary
MUAP-11013-P_R2_9.pdf	46.2MB	SRI included, Proprietary
MUAP-11013-P_R2_10.pdf	45.2MB	SRI included, Proprietary
MUAP-11013-P_R2_11.pdf	18.7MB	SRI included, Proprietary
MUAP-11013-P_R2_12.pdf	48.9MB	SRI included, Proprietary
MUAP-11013-P_R2_13.pdf	48.9MB	SRI included, Proprietary
MUAP-11013-P_R2_14.pdf	35.2MB	SRI included, Proprietary
MUAP-11013-P_R2_15.pdf	44.1MB	SRI included, Proprietary
MUAP-11013-P_R2_16.pdf	34.1MB	SRI included, Proprietary
MUAP-11013-P_R2_17.pdf	21.2MB	SRI included, Proprietary

CD 2: Technical Report,
MUAP-11013 Revision 2, "Containment Internal Structure Design and Validation Methodology (Non-proprietary Version)" – Versions Not Containing Proprietary and Security Related Information

Contents of CD2

File Name	Size	Sensitivity Level
MUAP-11013-NP_R2.pdf	2.15MB	SRI excluded, Non-Proprietary

Docket No. 52-021
MHI Ref: UAP-HF-13053

ATTACHMENT – 2

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

DCD Sect	RAI Letter Number	RAI Number	RAI Question Number	MUAP	Section, paragraph, figure, and/or table where question is answered[1]
3.8.3	858	6126	03.08.03-44	11005, Rev. 1	Appendices A through D
3.8.3	858	6126	03.08.03-45	11005, Rev. 1	Appendices A through D
3.8.3	894	6270	03.08.03-56	11005, Rev. 1	Appendices A through D
3.8.3	894	6270	03.08.03-66	11005, Rev. 1	Appendix A, Table A-2, Appendix C, and Appendices E, Reference 19
3.8.3	905	6311	03.08.03-67	11005, Rev. 1	Part 1 - Appendices A through D Part 2 - Appendices A through D Part 3 - Appendices A through D Part 4 - Appendix D
3.8.3	958	6608	03.08.03-93	11005, Rev. 1	Appendices A through D
3.8.3	662	5131	03.08.03-30	11013, Rev. 2	Standalone
3.8.3	858	6126	03.08.03-37	11013, Rev. 2	Editorial Corrections
3.8.3	858	6126	03.08.03-46	11013, Rev. 2	Appendix A
3.8.3	858	6126	03.08.03-47	11013, Rev. 2	Appendix A
3.8.3	858	6126	03.08.03-55	11013, Rev. 2	Section 6.2
3.8.3	958	6608	03.08.03-95	11013, Rev. 2	Section 3.2
3.8.3	958	6608	03.08.03-96	11013, Rev. 2	Section 3.2
3.8.3	322	1999	03.08.03-8	11018, Rev. 1	Standalone
3.8.4	342	2000	03.08.04-20	11018, Rev. 1	Standalone
3.8.4	497	3734	03.08.04-42	11018, Rev. 1	Standalone
3.8.3	662	5131	03.08.03-26	11018, Rev. 1	Executive Summary, and Sections 4.0, 5.0, 6.0, and 8.0
3.8.3	662	5131	03.08.03-32	11018, Rev. 1	Executive Summary, and Sections 4.0, 5.0, 6.0, and 8.0
3.8.3	676	5209	03.08.03-35	11018, Rev. 1	Executive Summary, and Sections 4.0, 5.0, 6.0, and 8.0
3.7.2	810	5874	03.07.02-93	11018, Rev. 1	Multiple Sections of MUAP-11018, Rev. 1
3.7.2	852	6003	03.07.02-118	11018, Rev. 1	Section 8.1
3.7.2	852	6003	03.07.02-128	11018, Rev. 1	Section 8.1
3.7.2	852	6003	03.07.02-136	11018, Rev. 1	Executive Summary, Sections 2.1, 4.2, 5.3.1 and 6.3, Table 7-1, and Appendix H
3.7.2	852	6003	03.07.02-137	11018, Rev. 1	Executive Summary, Sections 4.3, 5.2 and 6.5, Table 4-2, and Table 7-1
3.8.3	858	6126	03.08.03-48	11018, Rev. 1	Executive Summary Sections 2.2, 4.0, 5.0 and 6.0, and Table 7-1

DCD Sect	RAI Letter Number	RAI Number	RAI Question Number	MUAP	Section, paragraph, figure, and/or table where question is answered[1]
3.8.3	894	6270	03.08.03-63	11018, Rev. 1	Appendices H and I
3.8.3	905	6311	03.08.03-72	11018, Rev. 1	Section 4.1.8, Table 4-1, and Appendix G
3.8.3	958	6608	03.08.03-94	11018, Rev. 1	Standalone
3.8.3	905	6311	03.08.03-68	11019, Rev. 1	Section 2.3
3.8.3	905	6311	03.08.03-69	11019, Rev. 1	Section 2.7
3.8.3	905	6311	03.08.03-71	11019, Rev. 1	Sections 2.6, 2.7, and 8.6
3.8.3	905	6311	03.08.03-74	11019, Rev. 1	Section 2.8
3.8.3	905	6311	03.08.03-75	11019, Rev. 1	Section 4.3
3.8.3	905	6311	03.08.03-77	11019, Rev. 1	Part 1 - Section 6.2 Part 2 - Section 6.4 Part 3 - Standalone Part 4 - Corrected in the report, as appropriate
3.8.3	905	6311	03.08.03-78	11019, Rev. 1	Part 1 - Standalone Part 2 - Standalone Part 3 - Section 8.4 Part 4 - Section 8.4
3.8.3	905	6311	03.08.03-79	11019, Rev. 1	Part 1 - Section 2.2 Part 2 - Section 2.6 Part 3 - Section 6.4 Part 4 - Section 7.2 Part 5 - Section 8.3
3.8.3	931	6467	03.08.03-87	11019, Rev. 1	Executive Summary and Sections 2.6 and 2.7 Local Thermal Effects addressed as Standalone
3.8.3	931	6467	03.08.03-88	11019, Rev. 1	Part 1 - MUAP-11020, Rev. 1 Part 2 - MUAP-11020, Rev. 1 Part 3 - Section 8.1
3.8.3	958	6608	03.08.03-92	11019, Rev. 1	Standalone
3.8.3	858	6126	03.08.03-53	11020, Rev. 1	Part (a) - Section 2.0 and 3.1 Part (b) - Section 2.0 and 3.2 Part (c) - MUAP-11013, Rev. 2, Section 4.3
3.8.4	879	6196	03.08.04-52	11020, Rev. 1	Part 1 - Standalone Part 2 - Section 2.0, 3.2, and Standalone Part 3 - Standalone Part 4 - Standalone Part 5 - Standalone
3.8.3	931	6467	03.08.03-81	11020, Rev. 1	Part 1 - Section 2.0, 3.1, and 5.0 Part 2 - Section 2.0, 3.1, and Standalone Part 3 - Standalone
3.8.3	931	6467	03.08.03-82	11020, Rev. 1	Section 7.0, and Appendices A and B
3.8.3	931	6467	03.08.03-83	11020, Rev. 1	Section 3.1 and Standalone
3.8.3	931	6467	03.08.03-84	11020, Rev. 1	Part 1 - Executive Summary and Section 1.0 Part 2 - Section 3.1 Part 3 - Section 3.1 (ii)

DCD Sect	RAI Letter Number	RAI Number	RAI Question Number	MUAP	Section, paragraph, figure, and/or table where question is answered[1]
3.8.3	931	6467	03.08.03-85	11020, Rev. 1	Part 1 - Section 5.0, Bullet #2 Part 2 - Section 5.0 and Standalone Part 3 - Section 5.0, Bullet #6
3.8.3	931	6467	03.08.03-86	11020, Rev. 1	Part 1 - Section 7.0 Part 2 - Standalone Part 3 - Standalone Part 4 - Section 7.0
3.8.3	958	6608	03.08.03-90	12006, Rev. 0	Part 1 - Chapter 2 Part 2 - Chapter 3 Part 3 - Standalone
3.8.3	958	6608	03.08.03-91	12006, Rev. 0	Part 1 - Standalone Part 2 - Standalone Part 3 - Standalone

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