MITSUBISHI HEAVY INDUSTRIES, LTD.
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TOKYO, JAPAN

October 13, 2010

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-10275

Subject: **Revision 5 of the Technical Report MUAP-07004-P "Safety I&C System Description and Design Process", revision 6 of the Topical Report MUAP-07005-P "Safety System Digital Platform -MELTAC-", revision 3 of the Technical Report JEXU-1015-1009-P "MELTAC Platform Basic Software Safety Report", revision 1 of the Technical Report JEXU-1022-6301-P "MELTAC Platform Re-evaluation Program Report", MELTAC QA Summary Report and MELTAC QA Corrective Action Reports**

References:

1. UAP-HF-10237, Closure Plan for US-APWR Instrumentation and Control Open Issues, dated August 30, 2010

With this letter, Mitsubishi Heavy Industries, Ltd. ("MHI") transmits to the U.S. Nuclear Regulatory Commission ("NRC") as follows:

(a) Revision 5 of the Technical Report MUAP-07004-P "Safety I&C System Description and Design Process", which was previously submitted in March 2010, as revision 4
(b) Revision 6 of the Topical Report MUAP-07005-P "Safety System Digital Platform -MELTAC-", which was previously submitted in April 2010, as revision 5
(c) Revision 3 of the Technical Report JEXU-1015-1009-P "MELTAC Platform Basic Software Safety Report", which was previously submitted in March 2010, as revision 2
(d) Revision 1 of the Technical Report JEXU-1022-6301-P "MELTAC Platform Re-evaluation Program Report", which was previously submitted in July 2010, as revision 0
(e) MELTAC QA - Summary Report
(f) MELTAC QA - Corrective Action Reports

These documents have been revised to reflect feedback received from the NRC at the public meetings held on August 18, 19 and September 30, 2010 and commitments made in the "Closure Plan for US-APWR Instrumentation and Control Open Issues", dated August 30, 2010 (Reference 1).

As indicated in the enclosed materials, documents (a), (b), (c), (d) and (f) contain information that MHI and Mitsubishi Electric Corporation ("MELCO") 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 documents (a), (b), (c) and (d) is also being submitted in this package. In the non-proprietary version, the proprietary information, bracketed in the proprietary version, is replaced by the designation "[ ]".

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And the document (d) 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 braces "{ }". On the other hand, another version omits the SRI and is suitable for public disclosure. In the public version of the MELTAC Platform Re-evaluation Program Report, the SRI is replaced by the designation "{Security Related Information - Withheld Under 10 CFR 2.390}".

This letter includes a copy of the proprietary versions (Enclosure 3), a copy of the non-proprietary versions (Enclosure 4), and the Affidavit of Katsumi Akagi (Enclosure 1) and Yoshiki Ogata (Enclosure 2) which identify the reasons MELCO and MHI respectfully request that all materials designated as "Proprietary" in Enclosure 3 be withheld from public disclosure pursuant to 10 C.F.R. § 2.390 (a)(4).

Please contact Dr. C. Keith Paulson, Senior Technical Manager, Mitsubishi Nuclear Energy Systems, Inc. if the NRC has questions concerning any aspect of the submittal. His contact information is below.

Sincerely,

Y. Ogata

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

Enclosures:

1. Affidavit of Katsumi Akagi

2. Affidavit of Yoshiki Ogata

3. CD 1: "MUAP-07004-P (R5) Safety I&C System Description and Design Process"
"MUAP-07005-P (R6) Safety System Digital Platform -MELTAC-"
"JEXU-1015-1009-P (R3) MELTAC Platform Basic Software Safety Report"
"JEXU-1022-6301-P (R1) MELTAC Platform Re-evaluation Program Report"

–Proprietary and SRI included version

4. CD 2: "MUAP-07004-NP (R5) Safety I&C System Description and Design Process"
"MUAP-07005-NP (R6) Safety System Digital Platform -MELTAC-"
"JEXU-1015-1009-NP (R3) MELTAC Platform Basic Software Safety Report"
"JEXU-1022-6301-NP (R1) MELTAC Platform Re-evaluation Program Report"

– Non-proprietary and SRI excluded version

The files contained in each CD are listed in Attachments 1 and 2 hereto.

5. MELTAC QA – Summary Report

6. MELTAC QA – Corrective Action Reports

CC: J A. Ciocco
C. K. Paulson

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ENCLOSURE 1

Docket No. 52-021

MITSUBISHI ELECRTIC CORPORATION

AFFIDAVIT

I, Katsumi Akagi, state as follows:

1. I am US-APWR Project Manager, Nuclear Power Department, of Mitsubishi Electric Corporation ("MELCO"), and have been delegated the function of reviewing MELCO's 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 "MELTAC Platform Re-evaluation Program Report Revision 1" dated October 2010 and "MELTAC Platform Basic Software Safety Report Revision 3" dated October 2010, 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 MELCO 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 Re-evaluation Program report and Basic Software Safety Report for the digital platform "MELTAC", developed by MELCO and not used in the exact form by any of MELCO's competitors. This information was developed at significant cost to MELCO, since it required the performance of Research and Development and detailed design for its software and hardware extending over several years.

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, MELCO knows of no way the information could be lawfully acquired by organizations or individuals outside of MELCO.

7. Public disclosure of the referenced information would assist competitors of MELCO in their design of new nuclear power plants without incurring the costs or risks associated with the design and testing 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 MELCO in the U.S. nuclear plant market:

A. Loss of competitive advantage due to the costs associated with development and testing of software for the MELTAC. Providing public access to such information permits competitors to duplicate or mimic the MELTAC design 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 MELTAC.

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 10th day of October, 2010.

Katsumi Akagi,
US-APWR Project Manager, Nuclear Power Department
Mitsubishi Electric Corporation

ENCLOSURE 2

Docket No. 52-021

MITSUBISHI HEAVY INDUSTRIES, LTD.

AFFIDAVIT

I, Yoshiki Ogata, state as follows:

1. I am General Manager, 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 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 "Safety I&C System Description and Design Process Revision 5", "Safety System Digital Platform -MELTAC- Revision 6" and "MELTAC QA – Corrective Action Reports" dated October 2010 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 Mitsubishi Electric Corporation ("MELCO") 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 design of the safety I&C system design and the digital platform "MELTAC", developed by MHI and MELCO and not used in the exact form by any of MHI's and MELCO's competitors. This information was developed at significant cost to MHI, since it required the performance of Research and Development and detailed design for its software and hardware extending over several years.

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 and MELCO know 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 and MELCO in their design of new nuclear power plants without incurring the costs or risks associated with the design and testing 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 and MELCO in the U.S. nuclear plant market:

A. Loss of competitive advantage due to the costs associated with development of the safety I&C system. Providing public access to such information permits competitors to duplicate or mimic the safety I&C system design 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 safety I&C system.

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 13th day of October, 2010.

Y. Ogata

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

Docket No. 52-021
MHI Ref: UAP-HF-10275

Enclosure 5

UAP-HF-10275
Docket No. 52-021

MELTAC QA – Summary Report

Non-proprietary

October 2010

Enclosure 5

MELCO QA Activities

MELCO has implemented the following QA activities, which have established a QA program that complies with 10 CFR 50 Appendix B, in order to supply safety equipment to the US-APWR plants.

1. MELTAC QA Audit (March 2009)

Originally, MELTAC was not developed under the QA program based on 10CFR 50 Appendix B since MELCO had not established it. The audit in March 2009, conducted by MHI, was not a "usual" QA audit to verify vendor's QA program and its implementation but focused to review compliance of 10CFR50 Appendix B on the development of METLAC. As a result, MHI identified findings which required corrective actions. MELCO implemented and documented them in response to the QA audit in the Corrective Action Reports to submit to MHI for approval. MHI accepted the corrective action results, as documented in GENPIN-10-0189: "CLOSE OUT OF CORRECTIVE ACTIONS FOR THE AUDIT REPORT ON MELTAC / PQG1-HD-21005.".

In addition, MHI strongly recommended that MELCO establish QA program that complies with 10 CFR 50 Appendix B and 10 CRF 21. MELCO implemented this QA program. MHI's audit of MELCO's QA program is discussed below.

2. Phase I QA Audit (December 2009)

In November 2009, MELCO established Phase I of their QA program that complied with 10 CFR 50 Appendix B and 10 CRF 21. Phase I was limited to design activities; Phase II, which is discussed in Item 3 below, pertains to procurement, manufacturing and life cycle support.

In December 2009, MHI audited Phase I of the QA program that meets the requirements of 10CFR50 Appendix B, 10CFR21, and NQA-1, although the audit report listed several findings related to Phase I implementation details. MELCO implemented corrective actions in response to the Phase I audit findings, which were documented via Corrective Action Reports and submitted to MHI for approval. MHI confirmed corrective actions were satisfactorily done, as documented in GENPIN-10-0190: "CLOSE OUT OF CORRECTIVE ACTIONS FOR THE AUDIT REPORT ON MELCO / PQG1-HD-21021.".

3. Phase II QA Audit (May 2010)

In May 2010, MELCO established Phase II of their QA program, which extended the QA program to cover the entire life cycle process, including procurement and manufacturing activities. In May 2010, MHI audited the Phase II scope of the QA program that demonstrates compliance with 10CFR50 Appendix B, 10CFR21, and NQA-1, although the audit report listed several findings related to Phase II implementation details. MELCO has developed a Corrective Action Plan in response to the Phase II audit report.

Table 1 shows the QA programs audited, their scope, the MHI audit reports, and MELCO's corrective action plans and reports. All documentation listed in Table 1 is available for NRC audit.

Table-1

Item	Audit date	QA Program	Scope of Audit	Audit Report	Corrective Action Plans and Reports
1	March 2009	Original QA program	MELTAC Development	PQG1-HD-21005	JEXU-1012-6321-B, JEXU-1012-6322-D, JEXU-1012-6323-B, JEXU-1012-6324-C No.4-1, JEXU-1012-6324-D No.4-2 (Closed)
2	December 2009	QA program based on 10CFR50 Appendix B and 10CFR21	**Phase I:** Design, Test; 10CFR21	PQG1-HD-21021	ARQ-09Q003-C, ARQ-09Q004-C, ARQ-09Q005-C, ARQ-09Q006-C, ARQ-09Q007-C, ARQ-09Q008-C, ARQ-09Q009-C, ARQ-09Q010-C, ARQ-09Q011-D, ARQ-09Q012-C, ARQ-09Q013-C, ARQ-09Q014-C (Closed)
3	May 2010	QA program based on 10CFR50 Appendix B 10CFR21	**Phase II**: Procurement and Production; 10CFR21	PQG-HD-22021	ARQ-10Q003-A, ARQ-10Q004-A, ARQ-10Q005-A, ARQ-10Q006-A, ARQ-10Q007-A, ARQ-10Q008-A, ARQ-10Q009-A, ARQ-10Q010-A, ARQ-10Q011-A, ARQ-10Q012-A (Under Review)

4. MELTAC Re-evaluation Program

Based on the first QA audit of March 2009, it was concluded that MELTAC was not developed under a QA program that was equivalent to 10 CFR 50 Appendix B. Therefore, MELTAC needed to be commercially dedicated for safety applications in accordance with 10 CFR 21. To accomplish this objective, MELCO implemented a program to re-evaluate the previously developed MELTAC platform in accordance with NRC guidance for commercial dedication of digital equipment, EPRI-TR107330 and EPRI TR-106439. In July 2010, MELCO submitted the MELTAC Re-evaluation Program (MRP)Report JEXU-1022-6301_R0 to the NRC, which was prepared by a team of MELCO digital experts who were independent from the MELTAC design team.

This Report, prepared under the QAP (using procedures that reflect implementation of corrective actions for the audit findings) was initiated before MHI accepted the final Corrective Action Reports for Phase II QA Audit (December 2009). Therefore MELCO performed supplemental re-evaluation activities based on the completed corrective actions. These activities also included a supplemental re-evaluation based on additional sections of EPRI-TR107330 and EPRI TR-106439 that were not addressed in the original MRP report, as suggested by the NRC. Revision 1 of the MRP (JEXU-1022-6301_R1) reflects the results of the supplemental re-evaluation.

ATTACHMENT 1

FILES CONTAINED IN CD 1

CD 1: "MUAP-07004-P (R5) Safety I&C System Description and Design Process"
"MUAP-07005-P (R6) Safety System Digital Platform -MELTAC-"
"JEXU-1015-1009-P (R3) MELTAC Platform Basic Software Safety Report"
"JEXU-1022-6301-P (R1) MELTAC Platform Re-evaluation Program Report"

– Proprietary and SRI included version

Contents of CD

File Name	Size	Sensitivity Level
MUAP-07004-P(R5).pdf	12MB	Proprietary
MUAP-07005-P(R6).pdf	6.4MB	Proprietary
JEXU-1015-1009-P(R3).pdf	0.5MB	Proprietary
JEXU-1022-6301-P(R1)_SRI_Included.pdf	1.7MB	Proprietary

ATTACHMENT 2

FILES CONTAINED IN CD 2

CD 2: "MUAP-07004-NP (R5) Safety I&C System Description and Design Process"
"MUAP-07005-NP (R6) Safety System Digital Platform -MELTAC-"
"JEXU-1015-1009-NP (R3) MELTAC Platform Basic Software Safety Report"
"JEXU-1022-6301-NP (R1) MELTAC Platform Re-evaluation Program Report"

– Non-proprietary and SRI excluded version

Contents of CD

File Name	Size	Sensitivity Level
MUAP-07004-NP(R5).pdf	11MB	Non-proprietary
MUAP-07005-NP(R6).pdf	6.0MB	Non-proprietary
JEXU-1015-1009-NP(R3).pdf	0.3MB	Non-proprietary
JEXU-1022-6301-NP(R1)_SRI_excluded.pdf	0.6MB	Non-proprietary