

February 22, 2012

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Docket No. 99901410  
MELCO Ref.: ARQ-11P001-A

**Subject: Reply to Notice of Nonconformance No. 99901410/2011-202**

**Reference:** 1) "NRC INSPECTION REPORT NO.99901410/2011-202 AND  
NOTICE OF NONCONFORMANCE" dated January 25, 2012

This letter is in response to the U.S. Nuclear Regulatory Commission QA Inspection conducted at Mitsubishi Electric Corporation (MELCO), Energy Systems Center in Kobe, Japan, on December 5 - 9, 2011.

Enclosed are MELCO's response to NRC Inspection Report (Report No.: 99901410/2011-202) and two Notices of Nonconformance.

Should you have any questions, please contact me at +81-78-682-6634, email to [Okawa.Hirotooshi@dn.MitsubishiElectric.co.jp](mailto:Okawa.Hirotooshi@dn.MitsubishiElectric.co.jp) or mail to the address listed below.

Sincerely,



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Enclosures:

1. Nonconformance-A (NRC Inspection Report Number 99901410/2011-202-01)
2. Nonconformance-B (NRC Inspection Report Number 99901410/2011-202-02)

CC: Mr. Edward H. Roach, Chief  
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## Enclosure 1

### Nonconformance-A (NRC Inspection Report Number 99901410/2011-202-01)

#### **NRC Statement of Nonconformance**

Criterion XI, "Test Control, Procedures, and Drawings," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the Code of Federal Regulations (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," states, in part, that "a test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed...and that test results shall be documented and evaluated to assure that test requirements have been satisfied."

ESC Procedure N-G000, "Quality Manual for U.S. Nuclear Facility Applications," Revision J, dated April, 2011, Section 11, "Test Control", states, in part, that "Tests shall be performed and the results documented in accordance with appropriate technical requirements, codes, and standards."

Contrary to the above requirements, MELCO could not provide documented objective evidence to demonstrate that the Mitsubishi Electric Total Advanced Controller (MELTAC) burn-in tests were performed. Specifically, JEXU-1022-6301-P, "MELTAC Platform Re-Evaluation Program [MRP] Report," Revision 2, dated December 1, 2011 states that the MELTAC platform satisfied the criteria contained in EPRI-107330 "Generic Requirements Specification for Qualifying Commercially Available PLC for Safety-Related Applications in Nuclear Power Plants," which includes burn-in tests to detect early failures that would corrupt the qualification test results. However, through the review of the MRP report and associated documentation, the NRC inspectors determined that MELCO did not have sufficient objective evidence to demonstrate that the MELTAC burn-in tests were performed.

#### **1. Reason for the noncompliance**

Since burn-in tests are not required for the systems supplied to customers in Japan, there was no procedure that required documentation of the test results.

As a result, the burn-in test results were not documented, and the MRP Report Rev 2 only stated that "Though the test results are not documented we interviewed test personnel to confirm that the 352 hour burn in was performed as part of the integration test".

#### **2. Corrective steps that have been taken and the results achieved**

MELCO issued an internal Corrective Action Request (CAR: Document Number: ARQ-11D015-A) in order to:

- Revise N series of ESC Procedures and relevant instructions to specify that burn-in tests shall be performed and that the results shall be documented, to ensure the burn-in tests are performed before the testing process, and
- Incorporate the above in the MRP Report.

### **3. Corrective steps that will be taken to avoid noncompliance**

MELCO will revise the N series of ESC Procedures and relevant instructions to specify that burn-in tests shall be performed and documented. In addition, MELCO will train and indoctrinate personnel involved in developing test specifications for the MELTAC Platform concerning this requirement:

### **4. Date when the corrective action will be completed**

Full completion of the corrective action will be achieved by April 27, 2012.

## Enclosure 2

### Nonconformance-B (NRC Inspection Report Number 99901410/2011-202-02)

#### **NRC Statement of Nonconformance**

Criterion V, "Instructions, Procedures and Drawings," of Appendix B to 10 CFR Part 50 states, in part, that "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

ESC Procedure N-G000, Revision J, states, in part, that "procedures for design control shall be established to ensure that applicable design inputs such as applicable regulations, standards, codes, and customer requirements are correctly translated into design outputs, such as drawings, specifications, calculations, and procedures."

ESC Procedure N-0314, "Requirement Specification Procedure (NQA-1)," Revision D, Section 5.5.1(3) requires that a Requirement Specification describes "requirements including laws/regulation, guidelines, codes, standards, safety analysis report, NRC's safety evaluation report, and supplements thereto," and "Technical Specifications, Regulatory Guides, Code of Federal Regulations, NRC bulletins, circulars, notices and generic letters, and commitments in correspondence with NRC."

Contrary to the above requirements, MELCO did not adequately and completely describe the applicable regulatory requirements contained in JEXU-1021-1010, "Safety System Digital Platform MELTAC-N plus S System Specification," Revision D. Specifically, JEXU-1024-1010 did not describe the applicable NRC regulatory requirements that were included in the MELTAC Update Project Plan, JEXU-1028-1001, "Safety System Platform MELTAC N plus S Update Project Project Plan," Revision A.

#### **1. Reason for the noncompliance**

There was a lack of understanding that incorporation of the regulatory requirements into the Platform Specification (this document is called as "System Specification" in the document in question, however, hereinafter referred to as "Platform Specification") need to be verified and demonstrated.

Since the standards such as IEEE standards, endorsed by the requirements of the platform, are appropriately incorporated into the Platform Specification, MELCO understood that the evidence for traceability to those standards would be sufficient to demonstrate compliance with these requirements. As a result, there was no direct evidence to demonstrate traceability to these requirements.

#### **2. Corrective steps that have been taken and the results achieved**

MELCO issued an internal Corrective Action Request (CAR: Document Number: ARQ-11D014-A) to implement the following:

- (a) identify specific provisions of the regulatory requirements applicable to the MELTAC platform to be used as design inputs of the Update Project, as well as demonstrate how those provisions are incorporated into the Platform Specification, and
- (b) remove commitments to specific regulatory requirements from the MELTAC Update Project Plan and replace with a commitment to the MELTAC Platform Technical Report, where regulatory commitments are specified.

### **3. Corrective steps that will be taken to avoid noncompliance**

MELCO will revise and clarify the applicable procedure "Guideline for creating Project Plan (NQA-1)" (ESC Procedure N-0310) to:

- (a) specify that any Project Plan shall indicate a commitment to the MELTAC Platform Technical Report, where regulatory commitments are specified, and
- (b) require to identify specific provisions of the regulatory requirements applicable to the MELTAC platform and to demonstrate how those provisions are incorporated into the Platform Specification.

Subsequently MELCO will train and indoctrinate personnel involved in the design activities on the revision above.

### **4. Date when the corrective action will be completed**

Full completion of the corrective action will be achieved by April 27, 2012.