

January 25, 2012

APPLICANT: MITSUBISHI HEAVY INDUSTRIES, LTD.

APPLICATION: UNITED STATES - ADVANCED PRESSURIZED WATER REACTOR
STANDARD DESIGN CERTIFICATION REVIEW

SUBJECT: SUMMARY OF THE DECEMBER 15, 2011, PUBLIC MEETING WITH
MITSUBISHI HEAVY INDUSTRIES, LTD. TO DISCUSS THE
RESPONSES TO RAI 818-5872 AND RAI 876-6210 RELATED TO THE
UNITED STATES - ADVANCED PRESSURIZED WATER REACTOR
GAS TURBINE GENERATOR TYPE TESTING

On December 15, 2011, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and Mitsubishi Heavy Industries, Ltd. (MHI). The NRC staff had previously issued a public meeting notice dated November 30, 2011, as documented in the Agencywide Documents Access and Management System (ADAMS) under accession number ML113330253. The meeting notice includes the meeting agenda.

The NRC conducted this meeting, as requested by NRC staff (staff), to discuss the response to RAI 818-5872 and RAI 876-6210. The meeting discussion focused on the Gas Turbine Generator (GTG) Maintenance Activities Documentation, Maintenance Activities during Qualification Testing, and Reactive Load Bank Failure. Enclosure 1 provides a list of attendees. The responses to RAI 818-5872 and RAI 876-6210 are located in ADAMS under accession numbers ML11285A250 and ML113410221 respectively. The meeting handout used during the discussion is located in ADAMS under accession number ML11349A428 and is provided as Enclosure 2.

In the discussion related to Maintenance Activities Documentation the staff requested that the applicant (MHI) document in the Design Control Document (DCD) and the Technical Report, MUAP-07024-P, "Qualification and Test Plan of Class 1E Gas Turbine Generator System," the test procedures and GTG manufacturer's fuel nozzle maintenance cleaning required every 50 starts. The staff also requested that the applicant provide the test plan used during Qualification Testing, and an Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) for the NRC inspectors to verify the Gas Turbine Generator (GTG) qualification testing documentation. The applicant agreed to revise Technical Report, MUAP-07024-P to include the GTG maintenance and test procedures and will evaluate how to update the DCD including a possible update to the Technical Specification (TS), DCD Chapter 16. Staff took the action to provide an example of an ITAAC related to first-of-a-kind testing of equipment to the applicant.

In the discussion related to Maintenance Activities during Qualification Testing the staff requested that the applicant explain whether performing the fuel nozzle cleaning activities was essential for the GTG to complete successful qualification tests. The applicant agreed to provide commercial data from Kawasaki on GTGs that have been run for more than 50 starts without fuel nozzle cleaning and inspections of the fuel nozzle conditions before maintenance cleaning. Based on the available information, the applicant will update Technical Report, MUAP-10023-P, and "Initial Type Test Results of Class 1E Gas Turbine Generator System."

The applicant also agreed to provide response to RAI 876-6210 to support the fact that the GTG fuel nozzle cleaning was not needed for the successful starts and to update the Technical Report, MUAP-07024-P as applicable.

In the discussion related to Reactive Load Bank Failure the staff requested an explanation of load bank failure and discovery of acoustical enclosure ingestion into the air intake plenum, and the effects of the failure on the GTG operation. The staff also requested that the applicant provide information on corrective actions taken to address the problems encountered due to the load bank failure and acoustical enclosure ingestion and to characterize the load bank failure. The applicant explained the cause of the load bank failure, stating that it would not occur in an operating plant since it is part of the testing setup (e.g., a plant would not have a single inductive load and would have breaker protection), and agreed to document the root cause of the load bank failure and acoustical problems and will update the Technical Report, MUAP-10023-P, to include this information.

Finally, the applicant plans to update Technical Reports, MUAP-07024, and MUAP-10023, and the DCD as needed to address the issues discussed at the meeting and will submit a draft response to RAI 876-6210 for staff review; the draft response will include the appropriate DCD and technical report markups.

Please direct any inquiries to me at 301-415-6695, or via e-mail at Ngola.Otto@nrc.gov.

Sincerely,

/RA/

Ngola Otto, Project Manager
US-APWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-021

Enclosures:
As stated

cc w/encls: See next page

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Sincerely,

/RA/

Ngola Otto, Project Manager
US-APWR Projects Branch
Division of New Reactor Licensing
Office of New Reactors

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ADAMS Accession No.: ML113540231; *via e-mail

NRC-001

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DATE	01/25/2012	01/19/2012	01/25/2012	01/25/2012

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List of Attendees

Meeting with Mitsubishi Heavy Industries, Ltd. to discuss the responses to RAI 818-5872 and RAI 876-6210 Related to the United States - Advanced Pressurized Water Reactor Gas Turbine Generator Type Testing

<u>NAME</u>	<u>AGENCY/AFFILIATION</u>
James Curry	Mitsubishi Nuclear Energy Systems
Richard Barnes	Mitsubishi Nuclear Energy Systems
Shinji Kawanago	Mitsubishi Nuclear Energy Systems
Shinji Kiuchi	Mitsubishi Heavy Industries
Shinji Niida	Mitsubishi Heavy Industries
Katsuhisa Takaura	Mitsubishi Heavy Industries
Aditi Kolheker	Bechtel
Sharad Datar	Bechtel
Surgit Pabby	Bechtel
John Disosway	Dominion Virginia Power
Robin Weeks	ESI
Brad Abernathy	ESI
Terry Jackson	U.S. Nuclear Regulatory Commission
Ngola Otto	U.S. Nuclear Regulatory Commission
Jeff Ciocco	U.S. Nuclear Regulatory Commission
Tania Martinez-Navedo	U.S. Nuclear Regulatory Commission
Pei-Ying Chen	U.S. Nuclear Regulatory Commission
Robert Fitzpatrick	U.S. Nuclear Regulatory Commission

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(Revised 12/13/2011)

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