

September 22, 2009

APPLICANT: MITSUBISHI HEAVY INDUSTRIES, LTD.
APPLICATION: US-APWR STANDARD DESIGN CERTIFICATION REVIEW
SUBJECT: SUMMARY OF AUGUST 6, 2009, PUBLIC MEETING WITH MITSUBISHI HEAVY INDUSTRIES LTD. TO DISCUSS UNITED STATES ADVANCED PRESSURIZED WATER REACTOR GAS TURBINE GENERATOR TESTING AND DIVERSITY AS AN ALTERNATE AC POWER SOURCE

On August 6, 2009, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC or Commission) and representatives of Mitsubishi Heavy Industries Ltd. (MHI) at the U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Rockville, Maryland. The purpose of this meeting was to discuss the testing requirements of the Gas Turbine Generator (GTG) for the United States Advanced Pressurized Water Reactor Design Certification review. The meeting also discussed the use of the GTG as a diverse alternate AC power source. This meeting was a follow-up to the April 13, 2009 public meeting which focused on GTG diversity and reliability. A list of attendees is provided as Enclosure 1.

A public meeting notice was issued and documented in the Agencywide Documents Access and Management System (ADAMS) with accession number ML091980536 which includes the Meeting Agenda. The MHI Meeting Handout, Enclosure 2 (ML092230236) and the NRC Meeting Handout, Enclosure 3 (ML092230100) are also available in ADAMS.

MHI Presentation and Summary on GTG Qualification & Test Plan

MHI's presentation addresses the questions and issues outlined by NRC in its presentation. MHI plans to issue a revised Technical Report (MUAP-07024-P) in October 2009, and a meeting will be scheduled at the end of September 2009, to discuss the details of the Technical Report including the GTG test plan. MHI is also in the process of finalizing its test plan for GTG testing, scheduled for 2010. This test plan will be available for NRC staff to review prior to testing and will be included in the Technical Report (MUAP-07024-P). MHI confirmed its plans to set a GTG reliability target as 0.975 with a confidence of 95 percent while conducting 150 type tests based on reliability requirements of RG 1.155. MHI confirmed that they will submit the summary of the test results by December 2010, but the GTG qualification report will be submitted by the end of February 2011.

NRC and MHI discussed the scope of the GTG equipment to be included in the qualification, shown as figure-1 on page 3 of MHI's presentation. NRC staff reiterated that the scope of the GTG equipment that is to be included in the qualification plan must be consistent with the equipment shown in the Figure 1 of RG 1.9. Figure 1 of RG 1.9 shows the generator output breaker as a part of the equipment that is to be included in the qualification plan which is currently not included in the MHI proposed qualification plan.

MHI Presentation and Summary of Safe shutdown with 2 Divisions for Design Basis Accident and Plant Startup with 3 Electrical Divisions

MHI will provide clarification on the number of divisions for safe shutdown for Design Basis Accident and startup with adequate capacity based on design intent. MHI also plans to submit a draft revised response to Request for Additional Information (RAI) 72-853, Question 16-3 (ML082890619) to NRC for review. A conference call will then be scheduled to discuss the draft response.

MHI Presentation and Summary of GTG Diversity

MHI proposed using GTGs as alternate AC (AAC) power sources that will meet the intent of the Commission's guidance, given in SECY 90-016, on diversity between Class 1E onsite and AAC power sources. MHI's approach uses different manufacturers for class 1E and AAC GTGs that meets the Commission's guidance on diversity.

Concluding Remarks

The staff thanked MHI for a detailed description of the US-APWR Design Certification Document Chapter 8 discussions on GTG testing and diversity plan. Both the NRC and MHI will have additional discussions to clarify the issues surrounding the GTG to establish a path for closure and completion of the Safety Evaluation Report. For more details, see MHI and NRC presentation material.

List of Action Items

1. MHI to provide a draft revised response to RAI 72-853, Question 16-3 (ML082890619) to NRC for review. A conference call will then be scheduled to discuss the draft response.
2. A follow-up public meeting will be scheduled at the end of September 2009, to discuss the Technical Report (MUAP-07024-P), Qualification and Test Plan of Class 1E Gas Turbine Generator.
3. NRC staff to verify whether the proposed 150 tests (start and load) for target reliability of 0.975 with 95 percent confidence are adequate to provide the 95 percent confidence level.
4. NRC to provide markup comments on the Technical Report, (MUAP-07024-P), Qualification and Test Plan of Class 1E Gas Turbine Generator. (Completed)

Members of the public were in attendance.

Y. Ogata

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

/RA/

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

Docket No. 52-021

Enclosures:

1. Attendance Sheet
2. MHI Meeting Handout (ML092230236)
3. NRC Meeting Handout (ML092230100)

cc w/encls: See next page

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Meeting with Mitsubishi Heavy Industries (MHI) related to Gas Turbine Generator Reliability and Diversity Attendance Sheet

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