

REQUEST FOR ADDITIONAL INFORMATION 805-5915 REVISION 0

8/15/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.11 - Environmental Qualification of Mechanical and Electrical Equipment
Application Section: 3.11

QUESTIONS for Electrical Engineering Branch (EEB)

03.11-41

This question is a follow-up to question RAI 511-3739, Question 03.11-28.

In RAI 511-3739, Question 03.11-28, the staff asked whether any non-Class 1E equipment would be required to be qualified under 10 CFR 50.49(b)(2) of 10 CFR 50.49. In the February 02, 2010 response, the applicant stated that

“Based on MHI’s review of the Environmental Qualification Equipment list in DCD Tier 2, Table 3D-2 of Appendix 3D, Revision 2, there is no non-safety-related electrical equipment in EQ program that is required to be qualified to a harsh environment to meet 10 CFR 50.49(b)(2).”

In June 25, 2010, in a supplemental response to the same RAI, it further stated that

“Existing administrative and qualify controls, specific SSC programs (e.g., IEEE 344 per RG 1.89) and design review procedures provide mechanisms to properly identify and document in that (b)(2) items are environmentally and seismically qualified.”

Based on the two responses, it is not clear whether US APWR EQ program requires to qualify 10 CFR 50.49(b)(2) equipment.

In the May 31, 2011 response to RAI 688-5273, Question 07.07-32 for the Instrumentation & Control (I&C) system indicates that MUAP-08015 (EQ program) is used to qualify safety-related equipment for 10 CFR 50.49(b)(1) and industry standards [or qualification assurance (QA) program based on 10 CFR 50, Appendix B] is used for addressing the non-safety-related equipment for 10 CFR 50.49(b)(2). According to 10 CFR 50.49, non-safety-related electrical equipment located in a harsh environment, whose failure under postulated environmental conditions could prevent satisfactory accomplishment of safety function is also required to be qualified. The staff determines that the industry standards or QA program cannot substitute for qualifying non-safety-related electrical equipment (that includes both analog and digital I&C equipment) to satisfy the requirements of 10 CFR 50.49. Most of all, the US APWR DCD has not elaborated how 10 CFR 50.49(b)(2) equipment will be qualified in Section 3.11, Table 3D-2 of Appendix 3D of DCD, and MUAP-08015 (EQ program). Therefore, the staff requests MHI to provide additional information how 10 CFR 50.49(b)(2) equipment will satisfy the requirements of 10 CFR 50.49.

