REQUEST FOR ADDITIONAL INFORMATION 711-5533 REVISION 2

3/7/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 11.02 - Liquid Waste Management System
Application Section: 11.2

QUESTIONS for Health Physics Branch (CHPB)

11.02-34

Staff review of MHI Technical Report (TR) MUAP-10019[Proprietary]P, TR MUAP-10019[Non-Proprietary ML102850687]NP (Revision 0), "Calculation Methodology for Radiological Consequences in Normal Operation and Tank Failure Analysis," September 2010, provided as a result of the staff's audit (ML102810271) on the MHI PWR-GALE code and in response to item 2 of RAI 629-4973, Question 11.03-18 and RAI 624-4972, Questions 11.02-33 found that the requested calculation packages were not included. Although TR MUAP-10019P (R0) describes the calculation methodology, gaseous and liquid effluent and dose results, basis for input design parameter values, gas and liquid tank failure analysis and summarizes the quality assurance and validation procedures for MHI's proprietary version of the NRC PWR-GALE code used to calculate expected annual liquid and gaseous effluent releases during normal operation including AOOs for a plant referencing the US-APWR design, it does not include the calculation packages which show demonstration of compliance with 10 CFR 20.1301; 10 CFR 20.1302; 10 CFR 50.34a; 10 CFR 50.36a; 10 CFR Part 20, Appendix B, Table 2, Columns 1 and 2; 10 CFR 50, Appendix A; and 40 CFR Part 190. Please address the following items and provide a markup on the proposed DCD changes (where applicable).

1. Provide a copy of the following calculation packages: PWR-GALE code calculations on maximum liquid effluent releases and comparisons to the ECLs in 10 CFR Part 20, Appendix B, Table 2, and maximum gaseous effluent releases and comparisons to the ECLs in 10 CFR Part 20, Appendix B, Table 1; waste gas surge tank leak analysis; and charcoal bed leak analysis, as requested in item 2 of RAI 629-4973, Question 11.03-18 and RAI 624-4972, Questions 11.02-33, and as discussed in the staff's audit report.
2. Section 4, "Radioactive Effluent Releases due to Liquid Containing Failures - Tank Activities," Appendix A, "Basis for PWR-GALE code inputs," and Tables 16, "Input parameters for the RATAF code," and 17,"Source term for Liquid Containing Tank Failures" of TR MUAP-10019P/NP (R0) describes the basis for input design parameter values and calculation results for the new approach on the liquid tank failure analysis. Under 10 CFR 2.390, in response to RAI 403-3027, Question 11.02-20, item 4, by letter dated July 16, 2009, a copy of the RATAF code input/output files were provided as requested by the staff. However, this information has since been updated. Provide a copy of the RATAF code input/output files used in the new approach on the liquid tank failure analysis described in TR MUAP-10019P/NP (R0).

3. Reference TR MUAP-10019P/NP (R0) in the appropriate DCD sections (e.g., DCD Tier 2, Sections 11.2 and 11.3, etc.).