Request for Additional Information 431-3274 Revision 1

7/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021
SRP Section: 10.03 - Main Steam Supply System
Application Section: 10.3

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

10.03-4

US-APWR Supplemental RAI 10.3-1

In order to complete a review of the main steam supply system of the US-APWR DCD, as related to 10 CFR 50.63 requirement for station blackout (SBO) event, the staff requested the applicant in US-APWR RAI 10.3-3 (No. 329-1860 Rev. 0), dated April 8, 2009 to provide design and operating details for the main steam supply system (MSSS) and its components as related to the SBO. Also, the staff requested the applicant to provide supporting justification that the alternating current (AC) power source to the MSSS components is adequate to withstand and recover from an SBO event.

In its response, dated May 26, 2009, the applicant stated that during SBO events the plant can be kept in hot-standby condition for more than eight hours. This is accomplished by using 105% rated steam flow capacity main steam valves for decay heat removal in conjunction with feedwater supply from the emergency feedwater system (EFWS). The applicant further stated that main steam depressurization valves (MSDVs) are not required in hot-standby condition. Further it is stated that the alternate alternating current (AAC) gas turbine generator (GTG) can power the MSDV via Class 1 E power system until power is restored in accordance with FSAR Tier 2 Section 8.4.1.4, “Recovery from SBO.” However, this did not address staff’s RAI with respect to which components of the MSSS are required to be functional and what their emergency power sources are during an SBO event. Additionally, the applicant did not address the MSIV functionality for containment isolation and emergency power source during an SBO. Therefore, the staff requests for further clarification and/or additional information to provide a complete response to US-APWR RAI 10.3-3. Also, the applicant needs to quantify there is sufficient margin for AAC GTG to supply power to critical MSSS components.