

REQUEST FOR ADDITIONAL INFORMATION 430-3269 REVISION 1

7/30/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 10.04.04 - Turbine Bypass System

Application Section: 10.4.4

QUESTIONS for Balance of Plant Branch 2 (ESBWR/ABWR) (SBPB)

10.04.04-3

Supplemental - Request for Additional Information

US-APWR Supplemental RAI 10.4.4-1

In order to conform to GDC 34 requirement, Item 2, Section III, "Review Procedures" of SRP Section 10.4.4, "Turbine Bypass System," which recommends to verify the relation between the TBS and MSR/V capacity in terms of percentage of main steam flow, the maximum reactor power step change the system is designed to accommodate without a reactor or turbine trip, and the maximum electric load step change the reactor is designed to accommodate without reactor control rod motion or steam bypassing. Since the feature as recommended in the SRP guidance were not clear from the DCD, in a request for additional information (RAI) 10.4.4-1, dated January 21, 2009, the staff requested the applicant to provide further information as related to the TBS capacity for the maximum step change requirements in terms of percentage of the main steam conforming to the above SRP guidance as related to the GDC 34 requirement.

In a letter dated February 20, 2009, the applicant provided its response to US-APWR RAI 10.4.4-1 and described that, with 15 TBVs, the TBS has a capacity of 68 percent of the rated power main steam flow. This is reflected in the DCD Section 10.4.4.1.2. The applicant also stated that the sum of MSR/V capacity is 10 percent of the rated power main steam flow. The applicant further stated that the reactor power is controlled following the electric load, and referred to the DCD Section 10.4.4.3, where it is described that the TBS is designed to accommodate the maximum 100 percent step change of electric load without a reactor or turbine trip and without the actuation of the MSR/Vs. Additionally, in Section 10.4.4.3, it is described that the reactor is designed to be able to follow the maximum 10 percent step change of electric load with control rod motion and without using the TBS.

Based on its response, the staff finds that the applicant adequately addressed the SRP guidance in meeting the GDC 34 requirement, as it relates to the maximum reactor power step change the system is designed to accommodate without a reactor or turbine trip, and the maximum electric load step change the reactor is designed to accommodate without reactor control rod motion or steam bypassing. However, it is not clear to the staff regarding the relation between the TBS capacity and the MSR/V capacity in terms of percentage of rated maximum main steam flow. Therefore, the staff

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requests the applicant to provide clarification and/or additional information to meet the requirements of GDC 34, with respect to the relation between the capacities of the MSRVS and the TBS. The staff further requests the applicant to provide its response with proper justification and also to revise the FSAR to reflect its response(s). The staff's concern described in US-APWR RAI 10.4.4-1 remains open. **[Open Item_US-APWR 10.4.4-1]**.