

REQUEST FOR ADDITIONAL INFORMATION 789-5920 REVISION 3

7/26/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 15.02.01-15.02.05 - Loss of External Load; Turbine Trip; Loss of Condenser Vacuum;
Closure of Main Steam Isolation Valve (BWR); and Steam Pressure Regulator Failure (Closed)
Application Section: 15.2.1 - 15.2.8

QUESTIONS for Reactor System, Nuclear Performance and Code Review (SRSB)

15.02.01-15.02.05-9

DCD Section 15.2.2 presents analysis of a turbine trip (TT) event. The staff issued RAI 2329, question 15.2-2 asking why the loss of offsite power (LOOP) case was not included. In its response, MHI stated the TT event with LOOP was bound by either the 15.2.1 Loss of External Load or the 15.3.1.2 Complete Loss of Forced Coolant Flow. The staff was unable to reach the same conclusion because of the limited information included in the response. In order to find that the application contains adequate information to demonstrate that SRP criteria regarding LOOP are met, the staff requests that the offsite power unavailable case be added to the DCD and that this evaluation include time related variations of all key parameter.

15.02.01-15.02.05-10

Per Table 15.0.0-10.2 (included in MHI's response to RAI 2287, question 15.0.0-10), the decrease in heat removal transients analyzed in Sections 15.2.1 through 15.2.8 assume 10% of the steam generator tubes are plugged. This appears to be non-conservative for the secondary side overpressure analyses because it reduces the heat transfer from the primary to secondary system, reducing the heat up in the secondary side. Please justify this assumption for the 15.2.1-15.2.8 events.