

# REQUEST FOR ADDITIONAL INFORMATION 795-5884 REVISION 3

8/3/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 03.06.01 - Plant Design for Protection Against Postulated Piping Failures in Fluid Systems Outside Containment  
Application Section: 3.6.1

## QUESTIONS for Balance of Plant Branch 1 (SBPA)

### 03.06.01-7

In DCD Revision 3 and in response to Request for Additional Information (RAI) 71-986 question 03.06.02-18, RAI 459-3331 question 03.06.02-39 and RAI 636-4732 question 03.06.02-48; the applicant added to the DCD Tier 2 Section 3.6.2.6 "Outline of Pipe Break Hazard Analysis Report(s)." SRP 3.6.2 allows for a break exclusion zone, where no pipe breaks needs to be postulated. However, SRP 3.6.1 states that the effects of flooding, spray wetting, and subcompartment pressurization needs to be evaluated for a postulated 1.0 sq. ft. break for the main steam and feedwater lines within the break exclusion zone, at a location that has the greatest effect on essential equipment. DCD Tier 2 Section 3.6.2.6 is not clear enough to determine if the pipe break hazards analysis will evaluate the consequences of this break within the break exclusion zone. The staff requests the applicant to modify DCD Tier 2 Section 3.6.2.6 (fifth bullet or the section notes) to explicitly state that the pipe break hazards analysis will evaluate the consequences of a postulated 1.0 sq. ft. break for the main steam and feedwater lines within the break exclusion zone.

### 03.06.01-8

DCD Tier 1 Table 2.3-1 "High and Moderate Energy Piping System Considered for Protection of Essential Systems" and DCD Tier 2, Table 3.6-1 "High and Moderate Energy Fluid Systems" contain a list of the high and moderate energy piping system. DCD Tier 2 Section 9.2.5 "Ultimate Heat Sink" describes a water system that the staff considers should be included within these two lists.

The staff requests the applicant to include the UHS in DCD Tier 1 Table 2.3-1 and in DCD Tier 2, Table 3.6-1, or to justify why this system was excluded from the tables.

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03.06.01-9

ITAAC 2.3-2 items 4 and 5 requires the COL applicant to perform a pipe hazards analysis that demonstrate that all safety-related SSEs are protected from pipe failures from the piping systems identified in DCD Tier 1 Table 2.3-1. Since the COL applicant is the responsible of completing the ITAACs, it is expected that the report will include all safety-related components, including site-specific components.

DCD Tier 2 Section 3.6.4 "Combined License Information" COL 3.6(1) requires that the COL applicant to evaluate the impact of site-specific safety related components and high or moderate piping system on the pipe hazards analysis report. This COL was created prior to the creation of ITAAC 2.3-2 items 4 and 5. Most of the information required by the COL item (with the exception of the impact of site-specific high and moderate energy piping systems not included in DCD Tier 1 Table 2.3-1) will be addressed by ITAAC 2.3-2 items 4 and 5.

The staff requests the DCD applicant to update COL 3.6(1) to instruct the COL applicant to:

- modify DCD Tier 1 Table 2.3-1 to include all site specific high and moderate piping system, or to
- update the as-design pipe hazards analysis report to include the impact of all site specific high and moderate piping system.