REQUEST FOR ADDITIONAL INFORMATION 397-3060 REVISION 0

6/18/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 10.03.06 - Steam and Feedwater System Materials
Application Section: 10.3.6

QUESTIONS for Component Integrity, Performance, and Testing Branch 1 (AP1000/EPR Projects) (CIB1)

10.03.06-8

In response to RAI 10.03.06-1, the applicant provided a proposed revision to FSAR Table 10.3.2-3, “Main Steam and Feedwater Piping Design Data” and the applicant added Table 10.3.2-5 “ASME Materials Specifications with Filler Metal Specifications and Classification.” In order for the staff to complete its review, the staff requests the following.

1. Proposed Table 10.3.2-5 lists AWS welding specifications. ASME Code Section III, NC/ND-2121 states, in part, that welding and brazing materials used in manufacture of items shall comply with an SFA specification in Section II, Part C. Therefore, the staff requests that the applicant remove references to AWS specifications and replace them with the appropriate SFA specifications.

2. Proposed Table 10.3.2-5 contains filler materials classifications containing an “X” in the classification number. For weld filler metal used on ASME Code Class 2 and 3 piping and components, modify Table 10.3.2-5 to include the complete classification. If “G” classification filler metals will be used, provide a technical justification for why standard available non "G" classifications are not used and provide your ordering requirements for these filler materials.

3. Note 1 of Table 10.3.2-5 states that filler metal classifications were given for GTAW and SMAW only because these are the most likely welding processes. In addition, Note 1 states that filler metal information can be provided for other welding processes if required. The staff requests that the applicant provide, in the FSAR, a complete list of welding filler metal specifications and classifications for the welding of ASME Class 2 and 3 piping and components.

10.03.06-9

In response to RAI 10.03.06-7, the applicant stated, in part, that a computer program like CHECWORKS or equivalent utilized to design systems in order to minimize the effect of FAC depends on the COL applicant. Because the design of the plant is provided by the DCD applicant, the US-APWR FSAR should include a description of the design methods and design attributes used to mitigate the affects of FAC in all ASME Code Class 2 and 3 piping and components as well as non-safety related high energy piping and

components potentially susceptible to FAC. Therefore, the staff requests that the applicant modify the FSAR to include the following:

1. Describe the process used to determine which systems or parts of systems are potentially susceptible to FAC and provide the basis for the materials that you have selected for these systems. In addition, identify all systems that are potentially susceptible to FAC and are included in your analysis

2. Describe the corrosion allowance specified and discuss how the corrosion allowance covers the design life of the plant for all high energy systems (ASME Code Class 1, 2 and 3 and non-safety related systems) potentially susceptible to FAC.

3. Describe how the design and layout of piping minimizes the effects of FAC taking into consideration system piping and component configuration and geometry, water chemistry, piping and component material, fluid temperature (including flash points), and fluid velocity.