

REQUEST FOR ADDITIONAL INFORMATION 754-5617 REVISION Rev 3

5/10/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 14.03.06 - Electrical Systems - Inspections, Tests, Analyses, and Acceptance Criteria
Application Section: 14.3.4.6

QUESTIONS for Balance of Plant Branch 1 (SBPA)

14.03.06-20

Section 2.6.4.1, Item 12.b—Rev 3 of Tier 1 of the US-APWR DCD has replaced the statement that “Each Class 1E EPS is located in a separate room in the PS/B” with the statement that “The Class 1E EPSs are located in separate rooms in the PS/B.” This new statement in 12.b should similarly make it clear that each Class 1E EPS train is located in a separate room of the PS/B. This comment also applies to the description in Tier 1, Table 2.6.4-1, Item 12.b.

14.03.06-21

Rev 3 of US-APWR DCD, Tier 1, Table 2.6.4-1, Items 7.a and 7.b—The acceptance criteria requires that the results of the hydrostatic tests “conform with the requirements of ASME Code Section III.” The tests should also conform to the Code.

14.03.06-22

Rev 3 of US-APWR DCD, Table 2.6.4-1, Item 11—The DC and AC for this ITAAC that the intake and exhaust are simply “separated” does not provide adequate verification that GT exhaust will not be drawn into the combustion air intake. This ITAAC should verify a design that provides adequate separation of the intake and exhaust in accordance with the design description in Tier 2 Section 9.5.8.3.A which states that the exhaust is “located appropriately away” from the intake, “thereby minimizing the chances of the turbine exhaust being drawn into the intake.”

14.03.06-23

Rev 3 of US-APWR DCD, Table 2.6.4-1, Item 16—The AC for this ITAAC should require that the as-built protection systems are automatically bypassed when the Class 1E EPS is started by an ECCS actuation signal.

14.03.06-24

Rev 3 of US-APWR DCD, Table 2.6.4-1, Item 19—This item addresses the functional arrangements of the fuel oil storage and transfer system and the ventilation/cooling

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air intake and exhaust system. There is no similar item in Section 2.6.4.1 for the lube oil and starting air systems. Since all of these systems are required to support the safety function of the EPS, they should be treated similarly in this section.

14.03.06-25

Rev 3 of US-APWR DCD, Table 2.6.4-1, Item 25—This item addresses the power supply for the fuel oil transfer pumps. There are other support system components that are also powered by the respective Class 1E division power supply, such as the ventilation/cooling supply and exhaust fans. The DCD should be revised to include all of the Class 1E powered support system components in this ITAAC, or provide separate ITAAC for them.

14.03.06-26

Rev 3 of US-APWR DCD, Table 2.6.4-1, Item 30—This ITAAC should require that the oil capacity verified is based on the maximum expected oil consumption rate, e.g., just prior to a scheduled overhaul.

14.03.06-27

Rev 3 of US-APWR DCD, Table 2.6.4-1, Item 31—Verification that lube oil is simply being circulated is not adequate to ensure that the lube oil system is operating according to the required design. Lube oil flow rate, temperature, and/or pressure should be checked and verified to be in accordance with the design parameters. The ITAAC should be revised to require verification of parameters that will ensure that the system is operating according to design.

14.03.06-28

Rev 3 of US-APWR DCD, Table 2.6.4-2—According to this table, the starting air system piping and valves are ASME Section III, Class 3 from the discharge of the starting air compressors through to the piping connection for the air starter at the GTG skid. According to US-APWR DCD Tier 2 Figure 9.5.6-1 (Rev 2), the starting air system is nonsafety-related up to the inlet of the check valve at the inlet of each starting air receiver. The applicant should address this inconsistency and revise the DCD accordingly.