

# REQUEST FOR ADDITIONAL INFORMATION 363-2645 REVISION 0

5/13/2009

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 09.02.05 - Ultimate Heat Sink

Application Section: 9.2.5

QUESTIONS for Balance of Plant Branch 1 (AP1000/EPR Projects) (SBPA)

09.02.05-10

10 CFR 52.47(b) requires the Design Control Document (DCD) to contain inspection, testing, analyses, and acceptance criteria (ITAAC) that are necessary and sufficient to provide reasonable assurance the plant will be built and will operate according to the DCD. Once the conceptual design is identified, provide ITAAC for the design. In addition, Standard Review Plan (SRP) 9.2.5 Section III, paragraph 1 instructs the staff to confirm the overall arrangement of the UHS. The staff identified the following question/additions to Tier 2, DCD Section 14.2. These items need to be addressed to assure completeness and accuracy of the plant design and licensing basis.

1. Testing under Section 14.2.12.1.34 should specifically address the ultimate heat sink (UHS) being included as part of the prerequisites for conducting the essential service water system (ESWS) test.
2. There was no preoperational test for the UHS. The preoperational test should be based on the conceptual design that is to be provided. A range of temperature inputs should be used to verify UHS response. UHS makeup flow rate should meet design flow requirements. UHS level and temperature instruments and alarms should be tested. Other tests that are specific to the conceptual design should be included such as testing of forced draft fans and valves and pump head and pump flow. Modify the section to include this additional testing requirement after the conceptual design has been provided. [RAI 9.2.5-01 (ID2145/8760) also address this issue]
3. Section 14.2.12.2.4.21 will test the UHS for the UHS heat rejection capability test. Simply referring to "the heat rejection capability of the ESWS to the UHS meets design requirements" is too vague and does not provide sufficient specificity. The heat rejection capability for 2 trains operating and 4 trains operating should be verified. Therefore, additional information is needed to more clearly identify what the acceptance criteria are for the tests that are included in the UHS test program.