

REQUEST FOR ADDITIONAL INFORMATION 697-5502 REVISION 0

2/23/2011

US-APWR Design Certification

Mitsubishi Heavy Industries

Docket No. 52-021

SRP Section: 09.02.02 - Reactor Auxiliary Cooling Water Systems
Application Section: 9.2.2

QUESTIONS for Balance of Plant Branch 2 (SBPB)

09.02.02-80

Standard Review Plan (SRP) 9.2.2 Section III instructs the staff to confirm the overall arrangement of the component cooling system (CCWS). While the Design Control Document (DCD) Tier 1 flow diagrams, Figure 2.7.3.3-1, "Component Cooling Water System" and Tier 2 piping and instrumentation diagrams (P&IDs) in the Design Control Document (DCD), Figure 9.2.2-1, "Component Cooling Water System Piping and Instrumentation Diagram," show the CCWS components and identifies the boundaries between safety-related and non-safety-related parts of the system, some of the information is incomplete, inaccurate, or inconsistent. The following items should be addressed related to recent changes addressed under DCD Section 19.1 (DCD Revision 2):

1. Figure 9.2.2-1 sheet 6 of 9 and Figure 9.2.7-2 sheet 3 of 3 shows a new connection to the non-essential chilled water system; however, there is no DCD text which describes the bases for this alternative water source and connections. Consider adding this information, describing the bases and when the associated motor operated valves (MOVs) will be open, to DCD Sections 9.2.2, 9.2.7 and 9.3.4. Describe the overall effect to the CCWS when these valves are open. This was a recent change to the DCD Figures in Revision 2 where as Revision 0 did not have these connections.
2. Figure 9.2.2-1 sheet 6 of 9 shows a new connection to the fire service system (FSS); however, there is no DCD text which describes the bases for this alternative water source and connections. Consider adding this information, describing the bases and when the associated motor operated valves (MOVs) will be open, to DCD Sections 9.2.2, 9.3.4 and 9.5.1. Describe the overall effect to the CCWS when these valves are open. This was a recent change to the DCD Figures in Revision 2 where as Revision 0 did not have these connections.
3. The new connection for CCWS alternate cooling to the containment fan coolers (Figure 19.1-2, sheets 28 and 29 plus Figure 9.2.7-2 – sheet 2) shows the interface to VWS-MOV-424 and VWS-MOV-425. Consider adding this information, describing the bases and when the associated motor operated valves (MOVs) will be open, to DCD Sections 9.2.2 and 9.2.7. Describe the overall effect to the CCWS when these valves are open. This was a recent change to the DCD Figures in Revision 2 where as Revision 0 did not have a non-essential chilled water figure.
4. For Items 1, 2 and 3, consider adding the valve/boundary information to the Tier 1 text (design description and ITAAC) and Tier 1 Figures.

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5. For Items 1, 2, and 3 consider adding this information to the DCD Table 3.9-14 related to valve in-service testing requirements (VWS-MOV-424, VWS-MOV-425, NCS-MOV-321A/B, NCS-MOV-322A/B, NCS-MOV-323A/B, NCS-MOV-324A/B, NCS-MOV-325A/B, and NCS-MOV-326A/B). Describe valve seat leakage requirements related to surge tank leakage since these valves are safety related to non-safety related boundary MOV isolation on the CCWS headers (possible surge tank drainage source). Surge tank leakage is presently being address under RAI 571-4365, Question 9.2.2-49.
6. For Items 1, 2, and 3, consider adding this valve/boundary information to the Section 3 qualification list.
7. For Items 1, 2 and 3, consider adding the testing of these connections and flow paths in Section 14.2.12.1.87.
8. For item 3, address water hammer concerns (GL 96-06, "Assurance of Equipment Operability and Containment Integrity During DBA) since the CCWS is now supplying water to the containment fan coolers.
9. For Item 3, the mark numbers of VWS-MOV-424 and VWS-MOV-425 valves should be labeled as CCWS valves and should be shown on the CCWS Figure 9.2.2-1 rather than being shown on the VWS figure since these valves establish a CCWS safety related to non-safety related interface.
10. For Items 1, 2, and 3 consider adding this information to the DCD Table 3.2-2. In addition, Table 3.2-2 sheet 55 appears to have incorrectly designated the valve mark numbers as VWS-MOV-425,426 instead of 424 and 425.