2.4.2 ITAAC FOR PLANT SERVICE WATER SYSTEM (PORTION OUTSIDE THE SCOPE OF THE CERTIFIED DESIGN)

Design Description

The Plant Service Water System (PSWS) is the heat sink for the Reactor Component Cooling Water System (RCCWS). The PSWS does not perform any safety-related function. There is no interface with any safety-related component. The PSWS is subject to additional regulatory oversight to provide post-72 hour cooling to RCCWS.

The PSWS cooling towers and basins are not within the scope of the certified design. The functional arrangement of the cooling towers and basins are as seen in the attached figure.

Interface requirements are necessary for supporting the post-72 hour cooling function of the PSWS. The plant specific portion of the PSWS shall meet the following interface requirement:

1) The PSWS is required to remove 2.02×10^7 MJ (1.92×10^{10} BTU) over a period of 7 days without active makeup.

2) The functional arrangement of the PSWS cooling towers and basins is as described above.

3) The PSWS cooling towers provide the nonsafety-related functions to support post-72 hour cooling to the PSWS system to support RCCWS.

4) The PSWS cooling towers can be operated and controlled from the MCR.

5) PSWS cooling tower water flow and fan operation indication are provided in the MCR.

Inspections, Test, Analysis and Acceptance Criteria

Table 2.4.2-1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria for the PSWS.

Table 2.4.2-1

ITAAC for Plant Service Water System Cooling Towers and Basins

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
1. 1. The PSWS contains an inventory of cooling water sufficient for RCCWS cooling from hour zero (0) through day 7 (2.02×10^7 MJ (1.92×10^{10} BTU)) without active makeup.	1. Inspection of the as-built PSWS cooling tower basin and pump forebay will be conducted.	1. Report(s) document that the usable water volume in the cooling tower basins (Trains A and B) and associate pump forebay, defined as the volume above the pump minimum submergence water level and below the minimum normal operating level is a minimum of 2.6 million gallons.
2. The PSWS cooling tower and basin functional arrangement is as described in the Design Description of Section 2.4.2.	2. Inspection of the as-built system will be performed.	2. Report(s) documents that the as-built PSWS cooling towers and basins conforms to the functional arrangement described in the Design Description of Section 2.4.2.
3. The PSWS cooling towers provide the nonsafety-related functions to support post-72 hour cooling to the PSWS system to support RCCWS.	3. Testing will be performed to demonstrate PSWS water and air flow through the cooling towers.	3. A report documents that the PSWS cooling tower test demonstrates water and air flow through the cooling towers.
4. The PSWS cooling towers can be operated and controlled from the MCR.	4. Testing will be performed to demonstrate PSWS cooling tower air and water flow capability will be performed using controls in the MCR.	4. A report documents that MCR controls caused the PSWS cooling tower components to operate during the flow test.
5. PSWS cooling tower water flow and fan operation indication are provided in the MCR.	5. Inspection will verify that PSWS cooling tower flow and fan operation indication can be retrieved in the MCR.	5. A report documents that the PSWS cooling tower flow and fan operation indication can be retrieved in the MCR.