2.7.2 Safety Chilled Water System

1.0 Description

The safety chilled water system (SCWS) is a safety-related system that delivers refrigerated chilled water to the safety-related heating, ventilation, air conditioning (HVAC) systems and to Division 1 and Division 4 low head safety injection (LHSI) motor cooler and pump sealing cooler.

The SCWS significant safety-related function is to provide chilled water as a heat sink to safety-related HVAC systems, the main control room (MCR) habitability, and cooling of the LHSI pump seal coolers and motor coolers in Division 1 and Division 4 in the event of a design basis accident.

The SCWS significant non-safety-related function is for Division 1 and Division 4 to function in the event of a station blackout (SBO) or loss of ultimate heat sink (LUHS).

2.0 Arrangement

2.1 The functional arrangement of the SCWS is as shown in Figure 2.7.2-1—Safety Chilled Water System Functional Arrangement.

2.2 The location of the SCWS equipment is as listed in Table 2.7.2-1—Safety Chilled Water System Equipment Mechanical Design.

2.3 Physical separation exists between divisions of the SCWS.

3.0 Mechanical Design Features

3.1 Equipment listed in Table 2.7.2-1 as ASME Code Section III is designed, welded, and hydrostatically tested in accordance with ASME Code Section III.

3.2 Check valves listed in Table 2.7.2-1 will function as listed in Table 2.7.2-1.

3.3 Deleted.

3.4 Equipment identified as seismic Category I in Table 2.7.2-1 can withstand seismic design basis loads without loss of safety function as listed in Table 2.7.2-1.

3.5 Deleted.

3.6 Deleted.

3.7 Deleted.

3.8 Deleted.

3.9 Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are designed in accordance with ASME Code Section III requirements.

3.10 Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are installed in accordance with an ASME Code Section III Design Report.

3.11 Pressure boundary welds in portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are in accordance with ASME Code Section III.

3.12 Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 retain their pressure boundary integrity at their design pressure.

3.13 Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are installed in accordance with ASME Code Section III requirements.

4.0 I&C Design Features, Displays and Controls

4.1 Displays listed in Table 2.7.2-2—Safety Chilled Water System Equipment I&C and Electrical Design are retrievable in the MCR and the remote shutdown station (RSS) as listed in Table 2.7.2-2.

4.2 The SCWS equipment controls are provided in the MCR and the RSS as listed in Table 2.7.2-2.

4.3 Equipment listed as being controlled by a priority and actuator control system (PACS) module in Table 2.7.2-2 responds to the state requested by a test signal.

4.4 The SCWS has the following interlocks: The standby recirculation pump automatically starts if the running pump trips.

5.0 Electrical Power Design Features

5.1 The components designated as Class 1E in Table 2.7.2-2 are powered from Class 1E division as listed in Table 2.7.2-2 in a normal or alternate feed condition.

5.2 Valves listed in Table 2.7.2-2 fail as-is on loss of power.

6.0 Environmental Qualifications

6.1 Equipment listed in Table 2.7.2-2 for harsh environment can perform the safety function in Table 2.7.2-1 following exposure to the design basis environments for the time required.

7.0 Equipment and System Performance

7.1 The SCWS chiller refrigerating units shown on Figure 2.7.2-1 have the capacity to provide chilled water at the temperature to support the heat removal requirements of each user.

7.2 The pumps listed in Table 2.7.2-1 have sufficient net positive suction head absolute.

7.3 The SCWS delivers the design flow rate to the equipment listed in Table 2.7.2-1.

7.4 Class 1E valves listed in Table 2.7.2-2 can perform the function listed in Table 2.7.2-1 under system design conditions.

7.5 The SCWS provides for flow testing of the chilled water circulation pumps during plant operation.

8.0 System Inspections, Tests, Analysis, and Acceptance Criteria

Table 2.7.2-3 lists the SCWS ITAAC.

Table 2.7.2-1—Safety Chilled Water System Equipment Mechanical Design (5 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	ASME Code Section III	Function	Seismic Category
Safety Chilled Water Division 1					
Air Cooled Condenser	30QKA10AC002	Safeguard Building Division 1	Yes	Run	I
Evaporator	30QKA10AC001	Safeguard Building Division 1	Yes	Run	I
Chilled Water Circulation Pump	30QKA10AP107	Safeguard Building Division 1	Yes	Run	I
Chilled Water Circulation Pump	30QKA10AP108	Safeguard Building Division 1	Yes	Run	I
Expansion Tank	30QKA10BB101	Safeguard Building Division 1	Yes	Maintain system static pressure	I
Flow Control Valve	30QKA10AA101	Safeguard Building Division 1	Yes	Open-Close	I
Flow Control Valve	30QKB10AA101	Safeguard Building Division 1	Yes	Open-Close	I
Flow Control Valve	30QKC10AA101	Safeguard Building Division 1	Yes	Open-Close	I
Pressure Relief Valve	30QKA10AA191	Safeguard Building Division 1	Yes	Open	I
Check Valve	30QKA10AA011	Safeguard Building Division 1	Yes	Open-Close	I
Check Valve	30QKA10AA003	Safeguard Building Division 1	Yes	Open-Close	I
Check Valve	30QKA10AA018	Safeguard Building Division 1	Yes	Open-Close	I

Table 2.7.2-1—Safety Chilled Water System Equipment Mechanical Design (5 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	ASME Code Section III	Function	Seismic Category
Check Valve	30QKC10AA028	Safeguard Building Division 1	Yes	Open-Close	I
Flow Control Valve	30QKC10AA025	Safeguard Building Division 1	Yes	Open-Close	I
Safety Chilled Water Division 2					
Water Cooled Condenser	30QKA20AC002	Safeguard Building Division 2	Yes	Run	I
Evaporator	30QKA20AC001	Safeguard Building Division 2	Yes	Run	I
Chilled Water Circulation Pump	30QKA20AP107	Safeguard Building Division 2	Yes	Run	I
Chilled Water Circulation Pump	30QKA20AP108	Safeguard Building Division 2	Yes	Run	I
Expansion Tank	30QKA20BB101	Safeguard Building Division 2	Yes	Maintain system static pressure	I
Flow Control Valve	30QKA20AA101	Safeguard Building Division 2	Yes	Open-Close	I
Flow Control Valve	30QKB20AA101	Safeguard Building Division 2	Yes	Open-Close	I
Flow Control Valve	30QKC20AA101	Safeguard Building Division 2	Yes	Open-Close	I
Pressure Relief Valve	30QKA20AA191	Safeguard Building Division 2	Yes	Open	I
Check Valve	30QKA20AA011	Safeguard Building Division 2	Yes	Open-Close	I

Table 2.7.2-1—Safety Chilled Water System Equipment Mechanical Design (5 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	ASME Code Section III	Function	Seismic Category
Check Valve	30QKA20AA003	Safeguard Building Division 2	Yes	Open-Close	I
Check Valve	30QKA20AA018	Safeguard Building Division 2	Yes	Open-Close	I
Safety Chilled Water Division 3					
Water Cooled Condenser	30QKA30AC002	Safeguard Building Division 3	Yes	Run	I
Evaporator	30QKA30AC001	Safeguard Building Division 3	Yes	Run	I
Chilled Water Circulation Pump	30QKA30AP107	Safeguard Building Division 3	Yes	Run	I
Chilled Water Circulation Pump	30QKA30AP108	Safeguard Building Division 3	Yes	Run	I
Expansion Tank	30QKA30BB101	Safeguard Building Division 3	Yes	Maintain system static pressure	I
Flow Control Valve	30QKA30AA101	Safeguard Building Division 3	Yes	Open-Close	I
Flow Control Valve	30QKB30AA101	Safeguard Building Division 3	Yes	Open-Close	I
Flow Control Valve	30QKC30AA101	Safeguard Building Division 3	Yes	Open-Close	I
Pressure Relief Valve	30QKA30AA191	Safeguard Building Division 3	Yes	Open	I
Check Valve	30QKA30AA011	Safeguard Building Division 3	Yes	Open-Close	I

Table 2.7.2-1—Safety Chilled Water System Equipment Mechanical Design (5 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	ASME Code Section III	Function	Seismic Category
Check Valve	30QKA30AA003	Safeguard Building Division 3	Yes	Open-Close	I
Check Valve	30QKA30AA018	Safeguard Building Division 3	Yes	Open-Close	I
Safety Chilled Water Division 4					
Air Cooled Condenser	30QKA40AC002	Safeguard Building Division 4	Yes	Run	I
Evaporator	30QKA40AC001	Safeguard Building Division 4	Yes	Run	I
Chilled Water Circulation Pump	30QKA40AP107	Safeguard Building Division 4	Yes	Run	I
Chilled Water Circulation Pump	30QKA40AP108	Safeguard Building Division 4	Yes	Run	I
Expansion Tank	30QKA40BB101	Safeguard Building Division 4	Yes	Maintain system static pressure	I
Flow Control Valve	30QKA40AA101	Safeguard Building Division 4	Yes	Open-Close	I
Flow Control Valve	30QKB40AA101	Safeguard Building Division 4	Yes	Open-Close	I
Flow Control Valve	30QKC40AA101	Safeguard Building Division 4	Yes	Open-Close	I
Pressure Relief Valve	30QKA40AA191	Safeguard Building Division 4	Yes	Open	I
Check Valve	30QKA40AA011	Safeguard Building Division 4	Yes	Open-Close	I

Table 2.7.2-1—Safety Chilled Water System Equipment Mechanical Design (5 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	ASME Code Section III	Function	Seismic Category
Check Valve	30QKA40AA003	Safeguard Building Division 4	Yes	Open-Close	I
Check Valve	30QKA40AA018	Safeguard Building Division 4	Yes	Open-Close	I
Check Valve	30QKC40AA028	Safeguard Building Division 4	Yes	Open-Close	I
Flow Control Valve	30QKC40AA025	Safeguard Building Division 4	Yes	Open-Close	I

1) Equipment tag numbers are provided for information only and are not part of the certified design.

Table 2.7.2–2—Safety Chilled Water System Equipment I&C and Electrical Design (3 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	IEEE Class 1E (2)	EQ – Harsh Env.	PACS	MRC / RSS Displays	MCR / RSS Controls
Safety Chilled Water Division 1							
Chiller Refrigerating Unit with Air Cooled Condenser	30QKA10AH112	Safeguard Building Division 1	Division 1^N Division 2^A	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA10AP107	Safeguard Building Division 1	Division 1^N Division 2^A	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA10AP108	Safeguard Building Division 1	Division 1^N	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Flow Control Valve	30QKA10AA101	Safeguard Building Division 1	Division 1^N Division 2^A	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKB10AA101	Safeguard Building Division 1	Division 1^N Division 2^A	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKC10AA101	Safeguard Building Division 1	Division 1^N Division 2^A	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKC10AA025	Safeguard Building Division 1	Division 1^N Division 2^A	Yes	N/A	Pos / Pos	Throttling / Throttling
Safety Chilled Water Division 2							
Chiller Refrigerating Unit with Water Cooled Condenser	30QKA20AH112	Safeguard Building Division 2	Division 2^N Division 1^A	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA20AP107	Safeguard Building Division 2	Division 2^N Division 1^A	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA20AP108	Safeguard Building Division 2	Division 2^N	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop

Table 2.7.2–2—Safety Chilled Water System Equipment I&C and Electrical Design (3 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	IEEE Class 1E (2)	EQ – Harsh Env.	PACS	MRC / RSS Displays	MCR / RSS Controls
Flow Control Valve	30QKA20AA101	Safeguard Building Division 2	Division 2^{N} Division 1^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKB20AA101	Safeguard Building Division 2	Division 2^{N} Division 1^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKC20AA101	Safeguard Building Division 2	Division 2^{N} Division 1^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Safety Chilled Water Division 3							
Chiller Refrigerating Unit with Water Cooled Condenser	30QKA30AH112	Safeguard Building Division 3	Division 3^{N} Division 4^{A}	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA30AP107	Safeguard Building Division 3	Division 3^{N} Division 4^{A}	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA30AP108	Safeguard Building Division 3	Division 3^{N}	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Flow Control Valve	30QKA30AA101	Safeguard Building Division 3	Division 3^{N} Division 4^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKB30AA101	Safeguard Building Division 3	Division 3^{N} Division 4^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKC30AA101	Safeguard Building Division 3	Division 3^{N} Division 4^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Safety Chilled Water Division 4							
Chiller Refrigerating Unit with Air Cooled Condenser	30QKA40AH112	Safeguard Building Division 4	Division 4^{N} Division 3^{A}	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop

Table 2.7.2–2—Safety Chilled Water System Equipment I&C and Electrical Design (3 Sheets)

Equipment Description	Equipment Tag Number (1)	Equipment Location	IEEE Class 1E (2)	EQ – Harsh Env.	PACS	MRC / RSS Displays	MCR / RSS Controls
Chilled Water Circulation Pump	30QKA40AP107	Safeguard Building Division 4	Division 4^{N} Division 3^{A}	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Chilled Water Circulation Pump	30QKA40AP108	Safeguard Building Division 4	Division 4^{N}	Yes	N/A	On-off / On-off	Start-Stop / Start-Stop
Flow Control Valve	30QKA40AA101	Safeguard Building Division 4	Division 4^{N} Division 3^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKB40AA101	Safeguard Building Division 4	Division 4^{N} Division 3^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKC40AA101	Safeguard Building Division 4	Division 4^{N} Division 3^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling
Flow Control Valve	30QKC40AA025	Safeguard Building Division 4	Division 4^{N} Division 3^{A}	Yes	N/A	Pos / Pos	Throttling / Throttling

1) Equipment tag numbers are provided for information only and are not part of the certified design.

2) ^{N} denotes the division the component is normally powered from; ^{A} denotes the division the component is powered from when alternate feed is implemented.

Table 2.7.2-3—Safety Chilled Water System ITAAC
(5 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
2.1	The functional arrangement of the SCWS is as shown on Figure 2.7.2-1.	Inspections of the as-built system as shown on Figure 2.7.2-1 will be conducted.	The as-build SCWS conforms to the functional arrangement as shown in Figure 2.7.2-1.
2.2	The location of the SCWS equipment is as listed in Table 2.7.2-1.	An inspection will be performed of the location of the equipment listed in Table 2.7.2-1.	The equipment listed in Table 2.7.2-1 is located as listed in Table 2.7.2-1.
2.3	Physical separation exists between divisions of the SCWS.	Inspection will be performed to verify that the divisions of the SCWS are located in separate safeguards buildings.	The divisions of the SCWS are located in separate safeguards buildings.
3.1	Equipment listed in Table 2.7.2-1 as ASME Code Section III is designed, welded, and hydrostatically tested in accordance with ASME Code Section III.	a. Analysis of the equipment identified in Table 2.7.2-1 as ASME Code Section III will be performed per ASME Code Section III design requirements. b. Inspections will be conducted on the equipment identified in Table 2.7.2-1 as ASME Code Section III to verify welding has been performed per ASME Code Section III welding requirements. c. Hydrostatic testing of the equipment identified in Table 2.7.2-1 as ASME Code Section III will be performed per ASME Code Section III hydrostatic testing requirements.	a. ASME Code Section III Design Reports (NCA-3550) exist and conclude that the equipment identified in Table 2.7.2-1 as ASME Code Section III meets ASME Code Section III design requirements. b. Equipment identified in Table 2.7.2-1 as ASME Code Section III has been welded per ASME Code Section III welding requirements. c. Equipment identified in Table 2.7.2-1 as ASME Code Section III has been hydrostatically tested per ASME Code Section III hydrostatic testing requirements.
3.2	Check valves listed in Table 2.7.2-1 will function as listed in Table 2.7.2-1.	Tests will be performed for the operation of the check valves listed in Table 2.7.2-1.	The check valves listed in Table 2.7.2-1 perform the functions listed in Table 2.7.2-1.
3.3	Deleted.	Deleted.	Deleted.

Table 2.7.2-3—Safety Chilled Water System ITAAC
(5 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
3.4	Equipment identified as Seismic Category 1 in Table 2.7.2-1 can withstand seismic design basis loads without loss of safety function as listed in Table 2.7.2-1.	a. Type tests, analyses or a combination of type tests and analyses will be performed on the equipment designated as Seismic Category I in Table 2.7.2-1 using analytical assumptions, or under conditions, which bound the Seismic Category I design requirements. b. Inspections will be performed of the as-installed Seismic Category I equipment listed in Table 2.7.2-1 to verify that the equipment including anchorage is installed as specified on the construction drawings.	a. Tests/analysis reports exist and conclude that the Seismic Category I equipment listed in Table 2.7.2-1 can withstand seismic design basis loads without loss of safety function. b. Inspection reports exist and conclude that the as-installed Seismic Category I equipment listed in Table 2.7.2-1 including anchorage . is installed as specified on the construction drawings.
3.5	Deleted.	Deleted.	Deleted.
3.6	Deleted.	Deleted.	Deleted.
3.7	Deleted.	Deleted.	Deleted.
3.8	Deleted.	Deleted.	Deleted.
3.9	Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are designed in accordance with ASME Code Section III requirements.	Inspections will be performed for the existence of ASME Code Section III Design Reports.	ASME Code section III Design Reports (NCA-3550) exist for portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1.
3.10	Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are installed in accordance with an ASME Code Section III Design Report.	Inspections will be performed to verify the existence of an analysis which reconciles as-fabricated deviations to the ASME Code Design Report as required by ASME Code Section III.	For portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1, ASME Code Data Reports (N-5) exist and conclude that reconciliation (NCA-3554) of the as-installed system with the Design Report (NCA-3550) has occurred.

Table 2.7.2-3—Safety Chilled Water System ITAAC
(5 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
3.11	Pressure boundary welds in portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are in accordance with ASME Code Section III.	Inspections of pressure boundary welds verify that welding is performed in accordance with ASME Code Section III requirements.	ASME Code Section III Data Reports exist and conclude that pressure boundary welding for portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 has been performed in accordance with ASME Code Section III.
3.12	Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 retain their pressure boundary integrity at their design pressure.	Hydrostatic tests will be performed on the as-fabricated system.	For portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1, ASME Code Section III Data Reports exist and conclude that hydrostatic test results comply with ASME Code Section III requirements.
3.13	Portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1 are installed in accordance with ASME Code Section III requirements.	An inspection for the existence of ASME N–5 Data Reports will be performed.	For portions of the SCWS piping shown as ASME Code Section III in Figure 2.7.2-1, N–5 Data Reports exist and conclude that installation is in accordance with ASME Code Section III requirements.
4.1	Displays exist or can be retrieved in the MCR and RSS as identified in Table 2.7.2-2.	Inspections will be performed for the existence or retrievability of the displays in the MCR or the RSS as listed in Table 2.7.2-2.	a. The displays listed in Table 2.7.2-2 as being retrieved in the MCR can be retrieved in the MCR. b. The displays listed in Table 2.7.2-2 as being retrieved in the RSS can be retrieved in the RSS.
4.2	Controls exist in the MCR and the RSS as identified in Table 2.7.2-2.	Test will be performed for the existence of control signals from the MCR and the RSS to the equipment listed in Table 2.7.2-2.	a. The controls listed in Table 2.7.2-2 as being in the MCR exist in the MCR. b. The controls listed in Table 2.7.2-2 as being in the RSS exist in the RSS.
4.3	Equipment listed as being controlled by a PACS module in Table 2.7.2-2 responds to the state requested by a test signal.	A test will be performed using test signals.	Equipment listed as being controlled by a PACS module in Table 2.7.2-2 responds to the state requested by the test signal.

Table 2.7.2-3—Safety Chilled Water System ITAAC
(5 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
4.4	The SCWS has the following interlocks: The standby recirculation pump automatically starts if the running pump trips.	Tests will be performed using test signals to verify the interlock.	The following interlock responds as specified below when activated by a test signal: The standby recirculation pump automatically starts if the running pump trips.
5.1	The components designated as Class 1E in Table 2.7.2-2 are powered from the Class 1E division as listed in Table 2.7.2-2 in a normal or alternate feed condition.	a. Testing will be performed for components designated as Class 1E in Table 2.7.2-2 by providing a test signal in each normally aligned division. b. Testing will be performed for components designated as Class 1E in Table 2.7.2-2 by providing a test signal in each division with the alternate feed aligned to the divisional pair.	a. The test signal provided in the normally aligned division is present at the respective Class 1E component identified in Table 2.7.2-2. b. The test signal provided in each division with the alternate feed aligned to the divisional pair is present at the respective Class 1E component identified in Table 2.7.2-2.
5.2	Valves listed in Table 2.7.2-2 fail as-is on loss of power.	Testing will be performed for the valves listed in Table 2.7.2-2 to fail as-is on loss of power.	Following loss of power, the valves listed in Table 2.7.2-2 fail as-is.
6.1	Components listed as Class 1E in Table 2.7.2-2 that are designated as harsh environment will perform the function listed in Table 2.7.2-1 in the environments that exist before and during the time required to perform their safety function.	a. Type tests, tests, analyses or a combination of tests and analyses will be performed to demonstrate the ability of the equipment listed for harsh environment in Table 2.7.2-2 to perform the function listed in Table 2.7.2-1 for the environmental conditions that could occur before and during a design basis accident.	a. A report exists and concludes that the Class 1E equipment listed for harsh environment in Table 2.7.2-2 can perform the function listed in Table 2.7.2-1 before and during design basis accidents for the time required to perform the listed function.

Table 2.7.2-3—Safety Chilled Water System ITAAC
(5 Sheets)

Commitment Wording		Inspections, Tests, Analyses	Acceptance Criteria
		b. For equipment listed as qualified for harsh environment in Table 2.7.2-2 an inspection will be performed of the as-installed Class 1E equipment and the associated wiring, cables and terminations.	b. Inspection concludes the as-installed Class 1E equipment and the associated wiring, cables, and terminations as listed in Table 2.7.2-2 for harsh environment conform to the design.
7.1	The SCWS chiller refrigerating units shown on Figure 2.7.2-1, have the capacity to provide chilled water at the temperature to support the heat removal requirements of each user	Tests and analyses will be performed to demonstrate the capability of the SCWS chiller refrigerating units to provide chilled water at a temperature to support the heat removal requirements of all users.	The SCWS chiller refrigerating units have the capacity to provide chilled water at the required temperature.
7.2	The pumps listed in Table 2.7.2-1 have sufficient NPSHA.	Testing and analyses will be performed to verify NPSHA for pumps listed in Table 2.7.2-1.	A report exists and concludes that the pumps listed in Table 2.7.2-1 have NPSHA that is greater than net positive suction head required (NPSHR) at system run-out flow.
7.3	The SCWS delivers the design flowrate to the equipment listed in Table 2.7.2-1.	Tests and analyses will be performed to determine the SCWS delivery rate under design conditions.	The SCWS delivers the design flowrate to the equipment listed in Table 2.7.2-1.
7.4	Class 1E valves listed in Table 2.7.2-2 perform the function listed in Table 2.7.2-1 under system design conditions.	Tests and analyses or a combination of tests and analyses will be performed to demonstrate the ability of the valves listed in Table 2.7.2-2 to change position as listed in Table 2.7.2-1 under system design conditions.	The as-installed valve changes position as listed in Table 2.7.2-1 under system design conditions.
7.5	The SCWS has provisions to allow full flow testing during plant operation.	Testing of flow of the SCWS through the recirculation loop back to the pump suction will be performed.	The flow test line allows full system flow through the recirculation loop back to the pump suction.

Next File