Steven M. Snider
Vice President
Oconee Nuclear Station

Duke Energy
ON01VP | 7800 Rochester Hwy
Seneca, SC 29672

o: 864.873.3478
f: 864.873.5791
Steve.Snider@duke-energy.com

RA-24-0114

January 30, 2025

ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

10 CFR 50.90

Duke Energy Carolinas, LLC
Oconee Nuclear Station (ONS), Units 1, 2, and 3
Docket Numbers 50-269, 50-270, and 50-287
Renewed Facility Operating License Nos. DPR-38, DPR-47, and DPR-55

Subject: License Amendment Request to Revise Technical Specification 3.7.8, "Emergency Condenser Circulating Water (ECCW) System," Surveillance Requirement 3.7.8.3 to Reflect Variable Condenser Circulating Water Inlet Temperature Limits

Pursuant to 10 CFR 50.90, Duke Energy Carolinas, LLC (Duke Energy) proposes to amend the Technical Specifications (TS) for Oconee Nuclear Station (ONS) Units 1, 2, and 3. The proposed amendment would revise TS 3.7.8, "Emergency Condenser Circulating Water (ECCW) System," Surveillance Requirement (SR) 3.7.8.3 to reflect variable Condenser Circulating (CCW) Water inlet temperature limits. Specifically, in addition to the existing requirement to ensure that the CCW average inlet water temperature is less than or equal to the upper limit of 90°F, the proposed change to SR 3.7.8.3 will also require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS Updated Final Safety Analysis Report.

The Enclosure to this letter provides a description and assessment of the proposed change.

Attachment 1 provides the existing TS pages marked to show the proposed change. Attachment 2 provides retyped (clean) TS pages. Attachment 3 provides existing TS Bases pages marked to show the proposed change for information only.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c), and it has been determined that the proposed change involves no significant hazards consideration. The basis for this determination is included in the Enclosure.

Duke Energy requests approval of the proposed amendment to the ONS Technical Specifications within one year of the date this submittal is accepted by the U.S. Nuclear Regulatory Commission staff for review. Once approved, Duke Energy will implement the license amendments within 120 days. There are no regulatory commitments contained in this submittal.

In accordance with 10 CFR 50.91, Duke Energy is notifying the State of South Carolina of this license amendment request by transmitting a copy of this letter and Enclosure to the designated State Official.

If there are any questions or if additional information is needed, please contact Mr. Ryan Treadway, Director – Nuclear Fleet Licensing at 980-373-5783.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 30, 2025.

Sincerely,

Steven M. Snider
Vice President
Oconee Nuclear Station

Enclosure: Description and Assessment of the Proposed Change

Attachments:

1. Technical Specifications Markup
2. Revised (Clean) Technical Specifications
3. Technical Specifications Bases Markup (Information Only)

cc w/ enclosure and attachments:

Ms. Laura Dudes, Administrator, Region II
U.S. Nuclear Regulatory Commission
Marquis One Tower
245 Peachtree Center Ave., NE, Suite 1200
Atlanta, GA 30303-1257

Mr. Shawn Williams, Project Manager
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, Maryland 20852

Mr. Nick Smalley
NRC Senior Resident Inspector
Oconee Nuclear Station

Lynne Gardner
Manager, Radioactive and Infectious Waste Management Section
South Carolina Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

Robin Mack
Assistant Bureau Chief
Bureau of Environmental Health Services
South Carolina Department of Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

ENCLOSURE

DESCRIPTION AND ASSESSMENT OF THE PROPOSED CHANGE

Subject: License Amendment Request to Revise Technical Specification 3.7.8, "Emergency Condenser Circulating Water (ECCW) System," Surveillance Requirement 3.7.8.3 to Reflect Variable Condenser Circulating Water Inlet Temperature Limits

ATTACHMENTS:

1. Technical Specifications Markup
2. Revised (Clean) Technical Specifications
3. Technical Specifications Bases Markup (Information Only)

1. SUMMARY DESCRIPTION

Duke Energy Carolinas, LLC (Duke Energy) proposes to amend the Technical Specifications (TS) for Oconee Nuclear Station (ONS) Units 1, 2, and 3. The proposed amendment would revise TS 3.7.8, “Emergency Condenser Circulating Water (ECCW) System,” Surveillance Requirement (SR) 3.7.8.3 to reflect variable Condenser Circulating (CCW) Water inlet temperature limits.

Specifically, in addition to the existing requirement to ensure that the CCW average inlet water temperature is less than or equal to the upper limit of 90°F, the proposed change to SR 3.7.8.3 will also require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS Updated Final Safety Analysis Report (UFSAR).

2. DETAILED DESCRIPTION

2.1 System Design and Operation

ECCW System

The ECCW System at ONS is designed to remove heat from safety-related systems during both normal operation and accident conditions. Lake Keowee provides a heat sink for process and operating heat from safety related components during a transient or accident as well as during normal operation. This is done utilizing the ECCW System in conjunction with the Low Pressure Service Water System (LPSW).

The ECCW System consists of six siphon headers shared among the three Units. Each Unit's CCW inlet piping provides two ECCW siphon headers. Each siphon header takes suction from the CCW intake canal and supplies water to the CCW crossover header which connects to the LPSW suction piping. Although sharing some portions of the flow path, each CCW inlet header on a given unit is independent of the other header for the purposes of siphoning water from the intake canal to the CCW crossover header. A loss of siphon header flow from one ECCW siphon header does not prevent the other siphon header from supplying flow to the LPSW suction.

The Essential Siphon Vacuum (ESV) System is provided to remove air accumulation in the ECCW siphon headers. The ESV system consists of three ESV pumps per unit. One ESV pump is associated with each ECCW siphon header. The third ESV pump is a spare pump which can be aligned to replace either one of the other two pumps. Two Siphon Seal Water (SSW) headers are routed from the LPSW System in the turbine building to the CCW intake structure. One header is supplied from the shared Unit 1 and 2 LPSW System. The other header is supplied from the Unit 3 LPSW System. Two ESV seal supply headers, one from each SSW header, are provided and cross-connected at each ESV pump.

Maintaining the ECCW siphon headers OPERABLE during accident and transient events is an assumption in the accident and transient analysis. The ESV System and SSW System are required to ensure ECCW siphon header piping remains sufficiently primed to supply siphon flow to the LPSW suction piping. Two ECCW siphon headers are required to be OPERABLE during normal unit operation. An ECCW siphon header consists of a flow path from the intake canal through an open CCW pump discharge valve to the LPSW suction piping connection on the CCW crossover header.

In MODES 1, 2, 3, and 4, the ECCW siphon headers are normally operating to support the OPERABILITY of the equipment serviced by the ECCW siphon headers and are required to be OPERABLE in these MODES.

LPSW System

The ONS LPSW System provides a heat sink for the removal of process and operating heat from safety related components during a transient or accident. The LPSW System also provides this heat sink function during normal operation and normal shutdown for various components. The system provides cooling directly to the Reactor Building Cooling Units (RBCU), Low Pressure Injection coolers, turbine driven Emergency Feedwater (EFW) pump, High Pressure Injection pump motor coolers and the motor driven EFW pumps. The primary safety function of the LPSW System is, in conjunction with a 100% capacity reactor building cooling system, to remove core decay heat following a design basis loss of coolant accident (LOCA).

Pertinent to the proposed change in this amendment request, the ECCW System supplies suction to the LPSW pumps following a design basis event involving the loss of the CCW pumps. From there, the LPSW System provides sufficient flow to the Low Pressure Injection coolers and RBCUs to ensure sufficient heat transfer capability following the design basis accident.

2.2 Current Technical Specifications Requirements

The current ONS SR 3.7.8.3 states, “Verify average water temperature of Condenser Circulating Water (CCW) inlet is ≤ 90°F.”

This SR verifies that the average water temperature at the CCW inlet is ≤ 90°F. This SR verifies that CCW inlet temperature is consistent with assumptions in the safety analysis regarding inlet temperature for the LPSW system.

2.3 Reason for the Proposed Change

SR 3.7.8.3 ensures that the CCW average water temperature is less than or equal to 90°F in order to verify that CCW inlet temperature is consistent with the assumptions in the safety analysis regarding inlet temperature for the Low Pressure Service Water (LPSW) System (Note: LPSW takes suction from the CCW piping). However, Reactor Building Cooling Unit (RBCU) performance testing to satisfy SR 3.6.5.4 (“Verify that the containment heat removal capability is sufficient to maintain post accident conditions within design limits.”) utilizes heat removal capacity acceptance criteria that is based on a LPSW inlet temperature less than 90°F. The supporting safety analyses demonstrate that at LPSW temperatures less than 90°F, a lower heat removal capacity is required for the RBCUs to perform their design function. Therefore, the existing SR 3.7.8.3 is non-conservative because it does not consider inlet water temperature limits less than 90°F.

2.4 Description of the Proposed Change

The proposed change revises ONS SR 3.7.8.3 (also shown in Attachments 1 and 2) to read as follows:

SURVEILLANCE		FREQUENCY
SR 3.7.8.3	Verify average water temperature of Condenser Circulating Water (CCW) inlet is ≤ 90°F and less than the limits for containment heat removal specified in the Updated Final Safety Analysis Report.	In accordance with the Surveillance Frequency Control Program

In addition to reflecting the proposed change to the TS, the TS 3.7.8 Bases are revised for clarity and consistency. Changes to the TS Bases will be made in accordance with the technical specifications bases control program following approval of the requested amendment. The TS Bases changes are provided for information in Attachment 3 and approval of the TS Bases is not requested.

3. TECHNICAL EVALUATION

The proposed change adds a second criterion for SR 3.7.8.3 to be considered met. Namely, as described above in Section 2.4, SR 3.7.8.3 will now also require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS UFSAR. There is no change to the first criterion, that the average water temperature of Condenser Circulating Water inlet must be ≤ 90°F. With the proposed change, the two criteria have an 'and' relationship – both must be met, thus there is no relaxation of the upper Lake Keowee (i.e., CCW inlet) temperature requirement. The purpose of the new second criterion is to ensure that the Lake Keowee temperature is below assumptions made for the containment heat removal safety analyses.

The new SR 3.7.8.3 criterion is justified by its relationship to another SR from TS 3.6.5, "Reactor Building Spray and Cooling Systems." Specifically, SR 3.6.5.4 ("Verify that the containment heat removal capability is sufficient to maintain post accident conditions within design limits.") requires monitoring of containment heat removal. The active containment heat removal function is provided by Reactor Building Cooling Unit (RBCU) and Low Pressure Injection LPI heat exchangers, which are periodically tested to measure their performance and demonstrate that the SR is met. The required heat exchanger performance depends on the Lake Keowee (i.e., CCW inlet) temperature assumptions, since the LPSW system takes suction from the CCW system piping. Performance test results are compared to the cases included in UFSAR Table 6-25, "Minimum Acceptable Combinations of Containment Heat Removal Equipment Performance," which provides a range of maximum LPSW temperature assumptions. Although these cases are currently used to demonstrate that containment heat removal requirements (i.e., SR 3.6.5.4) are met, SR 3.7.8.3 is non-conservative when cases with Lake Keowee (CCW inlet) temperature limits below 90°F (e.g., 86°F) are utilized.

Table 6-25. Minimum Acceptable Combinations of Containment Heat Removal Equipment Performance

Case No.	INPUT ASSUMPTIONS							RESULTS	
	LPI Overall Ht Transfer Coeff @250F LPI (Btu/hr-ft²-°F)	RBCU (MBtu/hr)	LPSW (°F)	Rx Bldg Temp (°F)	RBS (inj phase) (gpm)	RBS (recirc phase) (gpm)		T (1 day) (°F)	T (15 days) (°F)
T	250	64.00	90	130	700	900		198.6	155.8
T2	250	55.25	86	125	700	900		200.2	158.4
T3	250	49.50	80	120	700	900		199.1	157.7
T4	250	43.50	70	120	700	900		196.7	155.2

In ONS UFSAR Table 6-25, containment heat removal requirements are shown which are used as input to the Long-Term Containment Temperature accident analyses. In each successive case shown in Table 6-25, cooler ultimate heat sink temperatures allow for reductions in RBCU heat transfer and result in acceptable containment heat removal rates. Reduced initial containment temperatures are also assumed for each successive case, consistent with the cooler ultimate heat sink temperatures. The analyses show comparable post-event Reactor Building temperatures for the four cases. All resulting containment temperature profiles have been successfully evaluated against the one-year mission time Environmental Qualification requirement for Reactor Building Large-Break LOCA mitigation equipment.

UFSAR Table 6-25 was revised pursuant to the provisions of 10 CFR 50.59 and NRC staff review and approval of the containment heat removal requirements for the various inlet water temperatures is not being requested. Rather, the proposed change is solely to align SR 3.7.8.3 with the existing design basis for containment heat removal as described in the UFSAR.

The proposed change is considered justified and acceptable because it aligns the ONS TS with the design basis requirements for CCW average inlet water temperature needed to satisfy containment heat removal acceptance criteria. The existing upper temperature limit of 90°F is preserved and limits resulting from the application of SR 3.6.5.4 are now explicitly called out in SR 3.7.8.3 by referring to the ONS UFSAR, ensuring that SR 3.7.8.3 is no longer a non-conservative TS.

4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The following regulatory and ONS licensing basis requirements are applicable to the proposed change.

Title 10 of the Code of Federal Regulations (10 CFR) Section 50.36, “Technical Specifications,” establish the requirements related to the content of the TS. Pursuant to 10 CFR 50.36(c) TS will include items in the following categories: (1) safety limits, limiting safety system settings, and limiting control settings, (2) LCOs, (3) surveillance requirements, (4) design features; and (5) administrative controls.

Section 50.36(c)(3) states:

Surveillance requirement are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

The principle design criteria for ONS were developed in consideration of the seventy General Design Criteria (GDC) for Nuclear Power Plant Construction Permits proposed by the Atomic Energy Commission (AEC) in a proposed rule-making published for 10 CFR 50 in the Federal Register on July 11, 1967. The ONS Units 1, 2 and 3 construction permits were issued on November 6, 1967, preceding the issuance of the GDC specified in 10 CFR 50, Appendix A. The following criteria from Chapter 3 of the ONS UFSAR are applicable to the proposed amendment and constitute the ONS licensing basis with respect to compliance with the GDC.

Criterion 42 – Engineered Safety Features Components Capability (Category A)

Engineered safety features shall be designed so that the capability of each component and system to perform its required function is not impaired by the effects of a loss-of-coolant accident.

Criterion 52 – Containment Heat Removal Systems (Category A)

Where active heat removal systems are needed under accident conditions to prevent exceeding containment design pressure, at least two systems, preferably of different principles, each with full capacity, shall be provided.

The proposed change does not affect plant compliance with these regulatory and licensing basis requirements and will continue to ensure that the lowest functional capabilities or performance levels of equipment required for safe operation are met.

4.2 Precedent

Examples of precedent for this specific change to the ECCW TS Surveillance Requirements were not found; however, recent comparable examples of non-conservative TS changes that have been approved include.

- Fermi, Unit 2 – March 2024 (Reference 1)
- H.B. Robinson Steam Electric Plant, Unit 2 – August 2022 (Reference 2)
- Beaver Valley Power Station, Units 1 and 2 – October 2021 (Reference 3)

4.3 No Significant Hazards Consideration Determination Analysis

Duke Energy Carolinas, LLC (Duke Energy) proposes to amend the Technical Specifications (TS) for Oconee Nuclear Station (ONS) Units 1, 2, and 3. The proposed amendment would revise TS 3.7.8, “Emergency Condenser Circulating Water (ECCW) System,” Surveillance Requirement (SR) 3.7.8.3 to reflect variable Condenser Circulating (CCW) Water inlet temperature limits.

Specifically, in addition to the existing requirement to ensure that the CCW average inlet water temperature is less than or equal to the upper limit of 90°F, the proposed change to SR 3.7.8.3 will also require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS Updated Final Safety Analysis Report (UFSAR).

Duke Energy has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed change revises ECCW System TS SR 3.7.8.3 to require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS UFSAR. This change does not alter the design, configuration, operation, or function of any plant structure, system, or component. In addition, there is no change to any equipment response or accident mitigation scenario, and consequently no additional challenges to fission product barrier integrity. There is no impact on the source term or pathways assumed in accidents previously assumed. No analysis assumptions are violated and there are no adverse effects on the factors that contribute to offsite or onsite dose as the result of an accident.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed change revises ECCW System TS SR 3.7.8.3 to require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS UFSAR. This change would provide a more restrictive acceptance criteria for existing ECCW TS SR 3.7.8.3. The TS Bases continues to state that CCW inlet temperature is consistent with assumptions in the safety analysis. The proposed change does not alter the design requirements of any SSC or its function during accident conditions. The proposed change does not involve a physical alteration to the plant or any changes in methods governing normal plant operation. The proposed change does not alter any assumptions made in the safety analysis.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change revises ECCW System TS SR 3.7.8.3 to require CCW inlet water temperature to be less than the limits for containment heat removal specified in the ONS UFSAR and does not change the technical content of the TS. The proposed change does not alter the way the safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by the proposed change. The proposed change will not result in plant operation

in a configuration outside the design basis and does not adversely affect systems that respond to safely shutdown the plant and maintain the plant in a safety shutdown condition.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, Duke Energy concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusion

In conclusion, based on the considerations discussed above: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner; (2) such activities will be conducted in compliance with the Commission's regulations; and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5. ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or a significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6. REFERENCES

1. NRC letter, *Fermi, Unit 2 – Issuance of Amendment No. 228 Regarding Revision of Non-Conservative Technical Specification 3.4.5, "RCS Pressure Isolation (PIV) Leakage" (EPID L-2023-LLA-0066)*, dated March 4, 2024 (ADAMS Accession No. ML24002B181)

2. NRC letter, *H. B. Robinson Steam Electric Plant, Unit No. 2 – Issuance of Amendment No. 271 Regarding Correction to Non-Conservative Technical Specifications Figure 3.4.3-2, Pressure/Temperature Limit cooldown Curves (EPD L-2021-LLA-0223)*, dated August 3, 2022 (ADAMS Accession No. ML22159A295)

3. NRC letter, *Beaver Valley Power Station, Unit Nos 1 and 2 – Issuance of Amendment Nos. 312 and 202 Re: Atmospheric Dump Valves (EPID L-2020-LLA-0229)*, dated October 15, 2021 (ADAMS Accession No. ML21214A275)

ATTACHMENT 1

MARKED-UP TECHNICAL SPECIFICATIONS PAGES

[3 pages follow this cover page]

No Changes to this page

3.7 PLANT SYSTEMS

3.7.8 Emergency Condenser Circulating Water (ECCW) System

LCO 3.7.8 Two ECCW siphon headers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required ECCW siphon header inoperable.	A.1 Restore required ECCW siphon header to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	12 hours 60 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.8.1	Verify required Essential Siphon Vacuum (ESV) pumps are in operation.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.8.2	Verify Keowee Lake water level is within limits.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.3	~~Verify average water temperature of Condenser Circulating Water (CCW) inlet is ≤ 90°F.~~	In accordance with the Surveillance Frequency Control Program
	l and non-automatic power each ECCW siphon header flow path, required ESV flow paths and required SSW flow paths that is not locked, sealed, or otherwise secured in position is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.5	Verify upon an actual or simulated actuation signal each ESV float valve actuates to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.6	Verify upon an actual or simulated actuation signal each required ESV and Siphon Seal Water (SSW) valve actuates to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.7	Verify the developed capacity of each required ESV pump at the test point is greater than or equal to the required capacity.	In accordance with the Surveillance Frequency Control Program

Verify average water temperature of Condenser Circulating Water (CCW) inlet is ≤ 90°F and less than the limits for containment heat removal specified in the Updated Final Safety Analysis Report.

(continued)

No Changes to this page

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.8.8	Verify each required ESV pump automatically starts in ≤ 1200 seconds upon an actual or simulated restoration of emergency power.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.9	----------NOTE---------- Not required to be performed for Units 1 and 2 with the shared Unit 1 and 2 LPSW System taking suction from the siphon. ----------	
	Verify upon an actual or simulated trip of the CCW pumps and ESV pumps that the rate of water level drop in the ECCW siphon header is within limits.	In accordance with the Surveillance Frequency Control Program

ATTACHMENT 2

REVISED (CLEAN) TECHNICAL SPECIFICATIONS

[1 page follows this cover page]

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.8.2	Verify Keowee Lake water level is within limits.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.3	Verify average water temperature of Condenser Circulating Water (CCW) inlet is $\leq$ 90°F and less than the limits for containment heat removal specified in the Updated Final Safety Analysis Report.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.4	Verify each manual and non-automatic power operated valve in each ECCW siphon header flow path, required ESV flow paths and required SSW flow paths that is not locked, sealed, or otherwise secured in position is in the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.5	Verify upon an actual or simulated actuation signal each ESV float valve actuates to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.6	Verify upon an actual or simulated actuation signal each required ESV and Siphon Seal Water (SSW) valve actuates to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.7.8.7	Verify the developed capacity of each required ESV pump at the test point is greater than or equal to the required capacity.	In accordance with the Surveillance Frequency Control Program

ATTACHMENT 3

TECHNICAL SPECIFICATIONS BASES MARKUP (INFORMATION ONLY)

[2 pages follow this cover page]

BASES

SURVEILLANCE REQUIREMENTS

SR 3.7.8.2 (continued)

and changes in operating practices, which may impact LPSW System flow requirements.

SR 3.7.8.3

This SR verifies that the average water temperature at the CCW inlet is ≤ 90°F. This SR verifies that CCW inlet temperature is consistent with assumptions in the safety analysis regarding inlet temperature for the LPSW system. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

and less than the limits for containment heat removal specified in the Updated Final Safety Analysis Report.

SR 3.7.8.4

Verifying the correct alignment for manual, and non-automatic power operated valves in the ECCW siphon header flow paths, required ESV flow paths and required SSW flow paths provides assurance that the proper flow paths exist for ECCW siphon header operation. This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since those valves are verified to be in the correct position prior to locking, sealing, or securing. Additionally, this SR does not apply to automatic valves since these valves actuate to the correct position upon initiation. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves.

This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of potentially being mispositioned are in the correct position.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.8.5

Verification that ESV float valves open upon an actual or simulated actuation ensures a flow path is provided to the ESV pumps to assure the ECCW siphon headers are maintained sufficiently primed. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.8.9

This SR verifies the ECCW system functions to supply siphon header flow to the suction of the LPSW pumps during design basis conditions by ensuring air accumulation in the ECCW siphon headers is within the removal capabilities of the ESV System. This SR establishes siphon flow with the ESV pumps off. Air accumulation in the pipe results in a corresponding reduction in water level in the CCW piping over a time period. The rate of water level reduction is recorded and compared to limits established in design basis documents. The limits on the rate of water level reduction over a time period are established to ensure ECCW siphon header air accumulation rate is within the removal capabilities of the ESV System under design basis conditions. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program. This SR is not required to be performed with the Unit 3 LPSW System taking suction from the siphon. This is acceptable since aligning the LPSW pumps to the Unit 3 ECCW siphon headers is not necessary to demonstrate that the ECCW air accumulation is within the ESV capacity which is the basic purpose of the test. The flow path from the Unit 3 CCW piping to the suction of the Unit 3 LPSW pumps is demonstrated by normal operation of the LPSW pumps.

A Note states that for Units 1 and 2, the SR is not required to be performed with the shared LPSW System for Units 1 and 2 taking suction from the siphon. This is necessary to avoid potential effects on an operating unit and is acceptable since the capability of the LPSW pumps to take suction from the CCW crossover header is demonstrated by normal, day-to-day operation of the LPSW pumps. Although a loss of suction to the LPSW pumps is unlikely during this SR, it is prudent to minimize the potential for jeopardizing the LPSW suction supply to the LPSW pumps when they are supporting an operating Unit.

REFERENCES

1. UFSAR, Chapter 9.
2. 10 CFR 50.36.
3. UFSAR, Chapter 16.
4. ASME Standard OM-6.
5. UFSAR, Chapter 6.