

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No 232 which are attached hereto, are hereby incorporated into this renewed operating license. Duke Power Company LLC shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than December 6, 2024, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

(4) Antitrust Conditions

Duke Power Company LLC shall comply with the antitrust conditions delineated in Appendix C to this renewed operating license.

(5) Fire Protection Program (Section 9.5.1, SER, SSER #2, SSER #3, SSER #4, SSER #5)*

Duke Power Company LLC shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report, as amended, for the facility and as approved in the SER through Supplement 5, subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

*The parenthetical notation following the title of this renewed operating license condition denotes the section of the Safety Evaluation Report and/or its supplement wherein this renewed license condition is discussed.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 228, which are attached hereto, are hereby incorporated into this renewed operating license. Duke Power Company LLC shall operate the facility in accordance with the Technical Specifications.

(3) Updated Final Safety Analysis Report

The Updated Final Safety Analysis Report supplement submitted pursuant to 10 CFR 54.21(d), as revised on December 16, 2002, describes certain future activities to be completed before the period of extended operation. Duke shall complete these activities no later than February 24, 2026, and shall notify the NRC in writing when implementation of these activities is complete and can be verified by NRC inspection.

The Updated Final Safety Analysis Report supplement as revised on December 16, 2002, described above, shall be included in the next scheduled update to the Updated Final Safety Analysis Report required by 10 CFR 50.71(e)(4), following issuance of this renewed operating license. Until that update is complete, Duke may make changes to the programs described in such supplement without prior Commission approval, provided that Duke evaluates each such change pursuant to the criteria set forth in 10 CFR 50.59 and otherwise complies with the requirements in that section.

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3.7 PLANT SYSTEMS

3.7.9 Standby Nuclear Service Water Pond (SNSWP)

LCO 3.7.9 The SNSWP shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. SNSWP inoperable.	A.1 Be in MODE 3.	6 hours
	<u>AND</u> A.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.9.1 Verify water level of SNSWP is \geq 571 ft mean sea level.	24 hours
SR 3.7.9.2 <u>NOTE</u> Only required to be performed during the months of July, August, and September. Verify average water temperature of SNSWP is \leq 95°F at an elevation of 568 ft. in SNSWP.	24 hours
SR 3.7.9.3 Verify, by visual inspection, no abnormal degradation, erosion, or excessive seepage of the SNSWP dam.	12 months

B 3.7 PLANT SYSTEMS

B 3.7.9 Standby Nuclear Service Water Pond (SNSWP)

BASES

BACKGROUND

The SNSWP provides a heat sink for processing and operating heat from safety related components during a transient or accident, as well as during normal operation. This is done by utilizing the Nuclear Service Water System (NSWS) and the Component Cooling Water (CCW) System.

The SNSWP has been defined as the water source, including necessary retaining structure, but not including the cooling water system intake structures as discussed in the UFSAR, Section 9.2 (Ref. 1). The principal functions of the SNSWP are the dissipation of sensible heat during normal operation, and dissipation of residual and sensible heat after an accident or normal operation.

The basic performance requirements are that a 30 day supply of water be available, and that the design basis temperatures of safety related equipment not be exceeded.

Additional information on the design and operation of the SNSWP can be found in Reference 1.

APPLICABLE SAFETY ANALYSES

The SNSWP is the seismically-assured sink for heat removed from the reactor core following all accidents and anticipated operational occurrences in which the unit is cooled down and placed on residual heat removal (RHR) operation.

NSWS temperature influences containment pressure following a Loss of Coolant Accident and offsite dose following a Main Steam Line Break. The containment peak pressure analysis can accommodate NSWS temperatures up to 100°F. The Main Steam Line Break dose analysis assumes an activity release from the steam generators for the time required to cool the Reactor Coolant System (RCS) to 210°F. The NSWS temperature assumed in the current analysis is 95.5°F. This assumption prevents the RCS cooldown time from exceeding that assumed in the current Main Steam Line Break dose analysis. Therefore, the Main Steam Line Break is limiting with respect to the assumed NSWS temperature.

BASES

APPLICABLE SAFETY ANALYSES (continued)

To ensure that the assumptions related to NSWS temperature in the safety analyses remain valid and to ensure that long term NSWS temperature does not exceed the 100°F design basis of the NSWS components, a limit of 95°F is observed for the initial temperature of the SNSWP. This temperature is important in that it, in part, determines the capacity for energy removal from containment incorporated into the peak containment pressure analysis. NSWS temperature is also important in determining the time required to cool the RCS of a nuclear unit after the occurrence of an accident. This in turn determines the extent of releases of radioactivity to the environment following a Main Steam Line Break.

The peak containment pressure occurs when energy addition to containment (core decay heat) is balanced by energy removal from the Containment Spray and Component Cooling Water heat exchangers. This balance is reached after the transition from injection to cold leg recirculation and after ice melt. Because of the effectiveness of the ice bed in condensing the steam which passes through it, containment pressure is insensitive to small variations in containment spray temperature prior to ice meltout.

Long term equipment qualification of safety related components required to mitigate the accident is based on a continuous, maximum NSWS supply temperature of 100°F or less.

To ensure that the NSWS initial temperature assumptions in the limiting analysis are met, Lake Wylie temperature is also monitored. During periods of time while Lake Wylie temperature is greater than 95.5°F, the emergency procedure for transfer of Emergency Core Cooling System (ECCS) flow paths to cold leg recirculation directs the operator to align both trains of containment spray to be cooled by loops of NSWS which are aligned to the SNSWP. Swapover to the SNSWP is required at 95.5°F rather than 95°F because Lake Wylie is not subject to subsequent heatup due to recirculation, as is the SNSWP. Therefore, the 100°F design basis maximum temperature is not approached.

The operating limits are based on conservative heat transfer analyses for the worst case accident. Reference 1 provides the details of the assumptions used in the analysis. The SNSWP is designed in accordance with Regulatory Guide 1.27 (Ref. 2), which requires a 30 day supply of cooling water in the SNSWP.

The SNSWP satisfies Criterion 3 of 10 CFR 50.36 (Ref. 3).

BASES

LCO The SNSWP is required to be OPERABLE and is considered OPERABLE if it contains a sufficient volume of water at or below the maximum temperature that would allow the NSWS to operate for at least 30 days following the design basis accident without the loss of net positive suction head (NPSH), and without exceeding the maximum design temperature of the equipment served by the NSWS. To meet this condition, the SNSWP temperature should not exceed 95°F at 568 ft mean sea level and the level should not fall below 571 ft mean sea level during normal unit operation.

APPLICABILITY In MODES 1, 2, 3, and 4, the SNSWP is required to support the OPERABILITY of the equipment serviced by the SNSWP and required to be OPERABLE in these MODES.

In MODE 5 or 6, the requirements of the SNSWP are determined by the systems it supports.

ACTIONS

A.1

If the SNSWP is inoperable the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

**SURVEILLANCE
REQUIREMENTS**

SR 3.7.9.1

This SR verifies that adequate long term (30 day) cooling can be maintained. The specified level also ensures that sufficient NPSH is available to operate the NSWS pumps. The 24 hour Frequency is based on operating experience related to trending of the parameter variations during the applicable MODES. This SR verifies that the SNSWP water level is \geq 571 ft mean sea level.

SR 3.7.9.2

This SR verifies that the NSWS is available to cool the CCW System to at least its maximum design temperature with the maximum accident or normal design heat loads for 30 days following a Design Basis Accident.

BASES

SURVEILLANCE REQUIREMENTS (continued)

The 24 hour Frequency is based on operating experience related to trending of the parameter variations during the applicable MODES. This SR verifies that the average water temperature of the SNSWP is $\leq 95^{\circ}\text{F}$. The SR is modified by a note that states the Surveillance is only required to be performed during the months of July, August, and September. During other months, the ambient temperature is below the surveillance limit.

SR 3.7.9.3

This SR verifies dam integrity by inspection to detect degradation, erosion, or excessive seepage. Operating experience has shown that these components usually pass the Surveillance when performed at the 12 month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

REFERENCES

1. UFSAR, Section 9.2.
2. Regulatory Guide 1.27.
3. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).