



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

January 6, 2022

Mr. Steven M. Snider
Site Vice President
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 – REGULATORY AUDIT IN SUPPORT OF THE LICENSE AMENDMENT REQUEST FOR ONE-TIME NOTE TO TECHNICAL SPECIFICATION 3.7.7, “LOW PRESSURE SERVICE WATER (LPSW) SYSTEM” (EPID L-2021-LLA-0157)

Dear Mr. Snider:

On September 2, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21245A210), Duke Energy Carolinas, LLC (Duke Energy) submitted a license amendment request to revise Technical Specification (TS) 3.7.7, “Low Pressure Service Water (LPSW) System,” to extend the completion time for one required inoperable LPSW Pump on a temporary basis for Oconee Nuclear Station (ONS), Units 1, 2, and 3. Specifically, the proposed change would add a Note modifying the completion time associated with TS 3.7.7, Condition A, Required Action A.1, to 288 hours during ONS Unit 2, Refuel 31 (Fall 2023) to allow for the tie-in and testing of an alternate suction source to the shared Unit 1 and Unit 2 ‘A’ and ‘B’ LPSW pumps. Duke Energy stated that the alternate suction source to the shared Unit 1 and Unit 2 ‘A’ and ‘B’ LPSW pumps is needed to permit draining of the Condenser Circulating Water (CCW) System cross-connect header for the replacement of three CCW valves.

To support its safety evaluation, the U.S. Nuclear Regulatory Commission (NRC) staff will conduct a virtual audit on January 24, 2022. Enclosure 1 to this letter provides an audit plan in support of this audit. Enclosure 2 provides audit questions for the licensee’s use in preparing for the audit discussion.

The NRC staff will issue an audit summary and any formal requests for additional information after the completion of the audit.

If you have any questions, please contact me at 301-415-1009 or via e-mail at Shawn.Williams@nrc.gov.

Sincerely,

/RA/

Shawn A. Williams, Senior Project Manager
Plant Licensing Branch II 1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-269, 50-270, and 50-287

Enclosures:

1. Regulatory Audit Plan
2. Audit Questions for Discussion

cc: Listserv

SUBJECT: OCONEE NUCLEAR STATION, UNITS 1, 2, AND 3 – REGULATORY AUDIT IN SUPPORT OF THE LICENSE AMENDMENT REQUEST FOR ONE-TIME NOTE TO TECHNICAL SPECIFICATION 3.7.7, “LOW PRESSURE SERVICE WATER (LPSW) SYSTEM” (EPID L-2021-LLA-0157) DATED JANUARY 6, 2022

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DATE	1/6/2022		

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REGULATORY AUDIT PLAN FOR JANUARY 24, 2022

LICENSE AMENDMENT REQUEST TO REVISE

TECHNICAL SPECIFICATION 3.7.7, "LOW PRESSURE SERVICE WATER (LPSW) SYSTEM"

DUKE ENERGY CAROLINAS, LLC

OCONEE NUCLEAR STATION, UNITS NO. 1, 2, AND 3

DOCKET NOS. 50-269, 50-270, AND 50-287

1.0 BACKGROUND

By letter dated September 2, 2021 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML21245A210), Duke Energy Carolinas, LLC (Duke Energy) submitted a license amendment request (LAR) to revise Technical Specification (TS) 3.7.7, "Low Pressure Service Water (LPSW) System," to extend the completion time for one required inoperable LPSW Pump on a temporary basis for Oconee Nuclear Station (ONS), Units 1, 2, and 3. Specifically, the proposed change would add a Note modifying the Completion Time associated with TS 3.7.7, Condition A, Required Action A.1, to 288 hours during ONS Unit 2, Refuel 31 (Fall 2023) to allow for the tie-in and testing of an alternate suction source to the shared Unit 1 and Unit 2 'A' and 'B' LPSW pumps. Duke Energy stated that the alternate suction source to the shared Unit 1 and Unit 2 'A' and 'B' LPSW pumps is needed to permit draining of the Condenser Circulating Water (CCW) System cross-connect header for the replacement of three CCW valves.

The Nuclear Regulatory Commission (NRC) staff's review of the LAR has commenced in accordance with the Office of Nuclear Reactor Regulation's (NRR) Office Instruction LIC-101, "License Amendment Review Procedures" (ADAMS) Accession No. ML19248C539). The NRC staff has determined that a regulatory audit of the LAR should be conducted in accordance with the NRR Office Instruction LIC-111, "Regulatory Audits" (ADAMS Accession No. ML19226A274) for the staff to gain a better understanding of the licensee's proposal.

A regulatory audit is a planned, license or regulation-related activity that includes the examination and evaluation of primarily non-docketed information. A regulatory audit is conducted with the intent to gain understanding, to verify information, and/or to identify information that will require docketing to support the basis of a licensing or regulatory decision. Performing a regulatory audit of the licensee's information is expected to assist the NRC staff in efficiently conducting its review and gain insights on the licensee's processes or procedures. Information that the NRC staff relies upon to make the safety determination must be submitted on the docket. However, the NRC staff may review supporting information retained as records and discussed in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.71 "Maintenance of records, making of reports" and/or 10 CFR 54.37 "Additional records and recordkeeping requirements," which, although not required to be submitted as part of the licensing action, would help the staff better understand the licensee's submitted information.

The NRC staff will conduct the audit virtually using Microsoft Team on January 24, 2022.

The objectives of this audit are to:

- Gain a better understanding of the license amendment request.
- Gain a better understanding of the actions taken for a failure of the “C” LPSW pump during the proposed 288 hour limiting condition for operation (LCO).
- Gain a better understanding of the risk insights.
- Discuss audit questions and determine the need for formal requests for additional information.

2.0 REGULATORY AUDIT SCOPE

- a. The licensee presents an overview of the LAR. Please include:
- a high level timeline of the modifications and repair of the CCW valves.
 - a discussion of the LPSW loads on Unit 1 that would be affected for a loss of the “C” LPSW pump.
 - a discussion of the risk insights.
 - a discussion of the modification to the 1B condensate cooler and how the alternative source of water provides sufficient net positive suction head and flow to operate the Unit 1 and 2 “A” and “B” LPSW pumps.

- b. The licensee presents the operator and plant response, including an estimated time chart beginning at a loss of the “C” LPSW pump, for the following scenarios:

Initial Conditions:

Oconee Unit 2 is within the proposed 288 hour LCO configuration Figure 5 of the LAR with Unit 1 and 3 at 100 percent power and Unit 2 defueled.

Scenario 1: “C” LPSW pumps fails or LPSW becomes inoperable and the Unit 3 LPSW cross-connect is successful.

Scenario 2: “C” LPSW pump fails or LPSW becomes inoperable and Unit 3 LPSW cross-connect is unsuccessful.

- c. The NRC staff and licensee discuss the audit questions provided in Enclosure 2.

3.0 NRC STAFF

- Shawn Williams, Project Manager, Office of Nuclear Reactor Regulation (NRR), Division of Reactor Licensing (DORL)
- Stephanie Devlin-Gill, Project Manager, NRR, DORL
- Zackary Stone, Project Manager, NRR, DORL
- Caroline Tilton, Technical Reviewer, NRR, Division of Safety Systems (DSS), Technical Specifications Branch
- Harry Wagage, Technical Reviewer, NRR, DSS, Containment and Plant Systems Branch (SCPB)
- Nan Chien, Technical Reviewer, NRR, DSS, SCPB
- Ian Tseng, Technical Reviewer, NRR, Division of Engineering and External Hazards (DEX), Mechanical Engineering and Inservice Testing Branch (EMIB)

- Thomas Scarbrough, Technical Reviewer, NRR, DEX, EMIB
- Technical Reviewer, NRR, Division of Reactor Oversight, Operator Licensing and Human Factors Branch
- Oconee NRC Resident Inspectors

4.0 LOGISTICS

This regulatory audit will be held on January 24, 2022, 9:30am to 12:30pm.

5.0 DELIVERABLES

The NRC staff will issue an audit summary and any formal Requests for Additional Information after the completion of the audit. The audit summary will use the guidance of NRR Office Instruction LIC-111 for content.

AUDIT QUESTIONS FOR DISCUSSION

LICENSE AMENDMENT REQUEST

TECHNICAL SPECIFICATION 3.7.7, "LOW PRESSURE SERVICE WATER (LPSW) SYSTEM"

TO EXTEND THE COMPLETION TIME FOR ONE REQUIRED INOPERABLE LPSW PUMP

ON A TEMPORARY BASIS

OCONEE NUCLEAR STATION UNITS 1, 2, AND 3

DUKE ENERGY CAROLINAS, LLC

DOCKET NOS. 50-269, 50-270, AND 50-287

The following is a list of audit questions for discussion to aid in the development of any formal requests for additional information (RAI). If the U.S. Nuclear Regulatory Commission (NRC) staff determines that the information in an audit question is needed to reach a licensing or regulatory decision, the NRC will issue a formal RAI shortly after the audit.

Office of Nuclear Reactor Regulation (NRR), Division of Engineering and External Hazards,
Mechanical Engineering and Inservice Testing Branch

The license amendment request (LAR) does not describe the configuration, function, and testing of the alternate LPSW suction source after its installation. The NRC staff requests that Duke Energy Carolinas, LLC (Duke Energy) respond to the following questions regarding the alternate LPSW suction source:

What is the long term plan for the alternate LPSW suction source?

What pumps and valves will be part of the alternate LPSW suction source?

What are the testing plans for the pumps and valves that are part of the alternate LPSW suction source?

What is the estimated duration for reliance on the alternate LPSW suction source?

Will reliance on the alternate LPSW suction source involve different functional requirements from the Oconee Nuclear Station (ONS) Updated Final Safety Analysis Report (UFSAR) or Inservice Testing (IST) Program Plan for the pumps and valves that are part of the alternate LPSW suction source?

How will the American Society of Mechanical Engineers Operation and Maintenance Code provisions as incorporated by reference in Title 10 of the *Code of Federal Regulations* Part 50.55a, "Codes and standards," and listed in the IST Program Plan for the pumps and

valves that are part of the alternate LPSW suction source be met during reliance on the alternate LPSW suction source?

Will the IST Program Plan need to be modified to address pumps and valves that are part of the alternate LPSW suction source?

NRR, Division of Safety Systems, Containment and Plant Systems Branch

As shown in Figure 7, "U2 Outage - Dewater CCW [Condenser Circulating Water] Including crossover to Replace 2CCW-41, CCW-72, & CCW-73," of Attachment 5 of the LAR, during the proposed installation of the alternate suction source to the shared Unit 1 and Unit 2 'A' and 'B' LPSW pumps, water will not be available to A&B Chillers. The ONS UFSAR Figure 9-24, "Control Room Area Ventilation and Air Conditioning System," shows that A&B chillers supply the control room air handling units and normally use water from the CCW system crossover line for the chiller condenser. The ONS Units 1, 2, and 3, Technical Specification (TS) 3.7.16, "Control Room Area Cooling Systems (CRACS)," Condition F requires entering TS limiting condition for operation (LCO) 3.0.3 when two chilled water trains are inoperable during MODE 1, 2, 3, or 4.

Please explain how the proposed installation affects meeting TS 3.7.16, "Control Room Area Cooling Systems (CRACS)".

NRR, Division of Safety Systems, Technical Specifications Branch

The TS Note proposed to be added contains a condition to have "appropriate LPSW loads secured." Please explain what steps need to be taken to appropriately to secure LPSW loads and confirm there is a QA-approved procedure in place to perform these steps.

Please discuss cross-connecting Unit 3 LPSW to Unit 1 and 2. For example, has Duke Energy cross-connected to Unit 3 before? Will the operators be trained in the use of the procedure? How much time is estimated for cross-connecting to Unit 3? Has this time been validated? At what time does the accident analysis assume LPSW will begin operating?

Clarify if the intent of the Note is not only to expire at 288 hours but also upon the completion of the modification, whichever comes first. If so, suggest modify the Note to reflect this accordingly.