



Sequoyah Nuclear Plant, Post Office Box 2000, Soddy Daisy, Tennessee 37384

December 14, 2021

10 CFR 50.4

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-001

Sequoyah Nuclear Plant, Units 1 and 2  
Renewed Facility Operating License Nos. DPR-77 and DPR-79  
NRC Docket Nos. 50-327 and 50-328

Subject: **Annual Non-Radiological Environmental Operating Report - 2021**

The purpose of this letter is to submit the enclosed Sequoyah Nuclear Plant (SQN) 2021 Annual Non-Radiological Environmental Operating Report. The Tennessee Valley Authority is submitting this report in accordance with Section 5.4.1 of Appendix B, "Environmental Technical Specifications (Non-Radiological)," of the SQN, Units 1 and 2, Renewed Operating Licenses. This report, which addresses the period from October 1, 2020, through September 30, 2021, is required to be submitted within 90 days following each anniversary of issuance of the operating licenses. Issuance dates for the SQN, Units 1 and 2, Operating Licenses were September 17, 1980, and September 15, 1981, respectively, indicating this report to be submitted no later than December 15, 2021.

There are no new regulatory commitments in this letter. Please direct questions concerning this report to Jeffrey Sowa, Site Licensing Manager, at (423) 843-8129.

Respectfully,

Thomas B. Marshall  
Site Vice President  
Sequoyah Nuclear Plant

Enclosure:

Tennessee Valley Authority - Sequoyah Nuclear Plant Annual Non-Radiological Environmental Operating Report, October 1, 2020 through September 30, 2021

cc: See page 2

U.S. Nuclear Regulatory Commission  
Page 2  
December 14, 2021

cc (Enclosure):

NRC Regional Administrator – Region II  
NRC Senior Resident Inspector – SQN  
NRR Project Manager – SQN  
Division of Radiological Health - State of Tennessee

ENCLOSURE

Tennessee Valley Authority  
Sequoyah Nuclear Plant  
Annual Non-Radiological Environmental Operating Report  
October 1, 2020 through September 30, 2021

## TABLE OF CONTENTS

TABLE OF CONTENTS .....	1
I INTRODUCTION.....	2
II REPORTING FOR THOSE PROGRAMS NOT CONCERNED WITH WATER QUALITY OR PROTECTION OF AQUATIC BIOTA, WHICH ARE REGULATED BY THE CLEAN WATER ACT .....	2
III ENVIRONMENTAL MONITORING PERFORMED .....	3
IV REPORTS PREVIOUSLY SUBMITTED AS SPECIFIED IN THE SQN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT.....	4
V ENVIRONMENTAL TECHNICAL SPECIFICATION (ETS) NONCOMPLIANCES.....	4
VI CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMIT CERTIFICATIONS .....	5
VII CHANGES IN FACILITY DESIGN OR OPERATION.....	5
VIII NON-ROUTINE REPORTS .....	6
IX SPECIAL STUDIES .....	6
X CHANGES IN APPROVED ENVIRONMENTAL TECHNICAL SPECIFICATION .....	6

## **I INTRODUCTION**

The Sequoyah Nuclear Plant (SQN) Annual Non-Radiological Environmental Operating Report for the period of October 1, 2020, through September 30, 2021, has been prepared in accordance with Environmental Technical Specifications (ETS) (Non-Radiological), Appendix B, Section 5.4.1. This report includes a summary of:

- A. Reporting for those programs not concerned with water quality or protection of aquatic biota, which are regulated by the Clean Water Act
- B. Environmental monitoring performed
- C. Reports previously submitted as specified in the SQN National Pollutant Discharge Elimination System (NPDES) Permit No. TN0026450
- D. ETS non-compliances and the corrective actions for remediation
- E. Changes made to applicable State and Federal permits and certifications
- F. Changes in station design that could involve a significant environmental impact or change the findings of the Final Environmental Statement (FES)
- G. Non-routine reports submitted per ETS Section 4.1
- H. Special studies
- I. Changes in approved ETS

Reporting, monitoring, and inspections conducted as required by permits and regulations indicated no adverse impacts upon the environment as a result of station operation.

## **II REPORTING FOR THOSE PROGRAMS NOT CONCERNED WITH WATER QUALITY OR PROTECTION OF AQUATIC BIOTA, WHICH ARE REGULATED BY THE CLEAN WATER ACT**

- A. Third Quarter 2020 Summary of Asbestos Removal Projects - submitted to the Hamilton County Air Pollution Control Bureau on October 1, 2020
- B. Annual Asbestos Removal Notification - submitted to Hamilton County Air Pollution Control Bureau on December 8, 2020
- C. Fourth Quarter 2020 Summary of Asbestos Removal Projects - submitted to the Hamilton County Air Pollution Control Bureau on January 6, 2021
- D. Semi-Annual Auxiliary Boiler Fuel Report - submitted to the Hamilton County Air Pollution Control Bureau on January 6, 2021
- E. Annual C&D Landfill Report - submitted electronically (via email) to Tennessee Department of Environment and Conservation (TDEC) on January 5, 2021
- F. Tier Two Emergency and Hazardous Chemical Inventory - submitted to Soddy-Daisy Fire Department, Hamilton County Local Emergency Planning Commission, and the Tennessee Emergency Management Agency (electronically) on January 13, 2021
- G. SQN Chronically Leaking Appliances 2020 Annual Report-submitted to EPA (via email) on January 22, 2021
- H. Annual Hazardous Waste Activity Report for 2020 - submitted to the TDEC on January 26, 2021
- I. Sequoyah Nuclear Plant Hazardous Waste Minimization Plan - maintained on file at Sequoyah Nuclear Plant since January 19, 2021
- J. First Quarter 2021 Summary of Asbestos Removal Projects - submitted to the Hamilton County Air Pollution Control Bureau on April 6, 2021
- K. Sequoyah Nuclear Plant Annual Report on the Hours of Operation for diesel permitted equipment - submitted to the Hamilton County Air Pollution Control

- Bureau (electronically) on May 11, 2021
- L. Forms A and R Toxic Chemical Release Information CY2020 Required by Emergency Planning and Community Right to Know Act - submitted to the Environmental Protection Agency [EPA] EPCRA Reporting Center and TDEC (electronically) on April 30, 2021
- M. Written Annual Document Log of polychlorinated biphenyls (PCBs) and PCB Items for Calendar Year 2020 - maintained on file since June 30, 2021
- N. Second Quarter 2021 Summary of Asbestos Removal Projects - submitted to the Hamilton County Air Pollution Control Bureau on July 7, 2021
- O. Semi-Annual Auxiliary Boiler Fuel Report - submitted to the Hamilton County Air Pollution Control Bureau on July 20, 2021

### III ENVIRONMENTAL MONITORING PERFORMED

- A. Storm water samples collected at required frequencies and Best Management Practices implemented as required by General Industrial Storm Water Discharge Permit TNR050015
- B. Semi-annual facility inspections as required by General Industrial Storm Water Discharge Permit TNR050015
- C. Outfall sampling and inspection is performed as required by NPDES Permit TN0026450 (results previously submitted to NRC as required)
- D. Monthly erosion and sediment control inspections are conducted as required by General Industrial Storm Water Discharge Permit TNR050015
- E. Weekly tank, piping, and secondary containment inspections are performed as required by General Industrial Storm Water Discharge Permit TNR050015 and the Spill Prevention Controls and Countermeasure Plan
- F. Weekly hazardous waste inspections conducted as required by 40 CFR 262 and by the Tennessee Rule Chapter 0400-12-01, Hazardous Waste Program
- G. Weekly landfill inspections performed as required by 40 CFR 258 and by the Tennessee Rule Chapter 0400-11-01, Solid Waste Processing and Disposal
- H. Monthly operational hours of Auxiliary Boilers A and B, Emergency Generators 1A, 1B, 2A, and 2B, Emergency Flex Generator, and Engines 3A and 3B as required by Federally Enforceable Certificate of Operation Nos. 4150-10200501-08C and 4150-20200102-11C
- I. Monthly operational hours of Auxiliary Boilers A and B, Emergency Generators 1A, 1B, 2A, and 2B, Emergency Flex Generator Engines 3A and 3B, High Pressure Diesel Fire Pump, Security Backup Diesel Generator, I/S Diesel Generator, 225 KV Diesel Generators, and Communications Backup Diesel Generators as required by 40 CFR 63
- J. Intake fore-bay aeration system sampling, maintenance, and operation performed as required by the State of Tennessee
- K. Air emissions inspected monthly for equipment permitted by the Hamilton County Air Pollution Control Bureau
- L. Refrigeration equipment performance and repairs are tracked monthly to ensure compliance with Title VI of the Clean Air Act
- M. Waste sampling and characterization as required by 40 CFR 261
- N. Asbestos removal tracking as required by the Hamilton County Air Pollution Control Bureau
- O. Hazardous waste minimization (such as chemical control and substitution) as required by the Tennessee Rule Chapter 0400-12-01, Hazardous Waste Program
- P. National Environmental Policy Act (NEPA) reviews conducted to evaluate potential

environmental impact of temporary or permanent facility modifications as required by 40 CFR 1500

- Q. EOC-1201-NPG-SQN(Water)-E - SQN Environmental Compliance
- R. Miscellaneous Media Reviews

#### **IV REPORTS PREVIOUSLY SUBMITTED AS SPECIFIED IN THE SQN NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT**

The following reports were submitted as specified in the SQN NPDES Permit No. TN0026450 and General Industrial Discharge Storm Water Permit No. TNR050015.

- A. Monthly Discharge Monitoring Report (DMR) for September 2020 - submitted to Tennessee Department of Environment and Conservation (TDEC) on October 13, 2020.
- B. Monthly DMR for October 2020 - submitted to TDEC on November 12, 2020
- C. 2020 Annual Stormwater Monitoring Report (SW-1, SW-8, SW-13, SW-18, SW-19, SW-21), submitted to the TDEC on October 29, 2020.
- D. Monthly DMR for November 2020 - submitted to TDEC on December 11, 2020.
- E. Monthly DMR for December 2020 - submitted to TDEC on January 14, 2021.
- F. 2020 Biocide/Corrosion Treatment Plan (B/CTP) Annual Report - submitted to TDEC on January 28, 2021
- G. 2020 Annual Stormwater Monitoring Report (SW-2, SW-3, SW-6, SW-9), submitted to the TDEC on January 28, 2021.
- H. Monthly DMR for January 2021 - submitted to TDEC on February 11, 2021
- I. 2020 Water Withdrawal Registration Forms - submitted to TDEC on February 11, 2021
- J. Clean Water Act Signature Authorization update – submitted to TDEC on February 11, 2021.
- K. Monthly DMR for February 2021 - submitted to TDEC on March 15, 2021.
- L. 2021 Annual Stormwater Monitoring Report (SW-2, SW-4, SW-8, SW-9, SW-13), submitted to the TDEC on April 8, 2021.
- M. Monthly DMR for March 2021 - submitted to TDEC on April 14, 2021.
- N. Monthly DMR for April 2021 - submitted to TDEC on May 14, 2021.
- O. Notice of Intent application for coverage under the Construction General Permit (Gravel Lot Restoration Project) – submitted to TDEC on May 14, 2021.
- P. Monthly DMR for May 2021 - submitted to TDEC on June 15, 2021.
- Q. Monthly DMR for June 2021 - submitted to TDEC on July 14, 2021.
- R. Monthly DMR for July 2021 - submitted to TDEC on August 12, 2021.
- S. 2021 Annual Stormwater Monitoring Report (SW-3, SW-16, SW-19), submitted to the TDEC on September 3, 2021.
- T. Monthly DMR for August 2021 - submitted to TDEC on September 5, 2021.

#### **V ENVIRONMENTAL TECHNICAL SPECIFICATION (ETS) NONCOMPLIANCES**

None.

## VI CHANGES MADE TO APPLICABLE STATE AND FEDERAL PERMIT CERTIFICATIONS

- A. Notice of Coverage (NOC) under the Construction General Permit (CGP), Tracking No. TNR192066, was issued on May 21, 2021. This permit was required to cover 4.6 acres of disturbance within the project boundary to restore an onsite gravel parking lot with vegetation. The general permit expired on September 30, 2021, and the renewal general permit was issued prior to expiration with an effective date of October 1, 2021. There were no substantive changes to the existing general permit that impacted the site's project. Coverage under the new general permit was automatically extended without notification per Section 3.1.2 of the CGP. Coverage will be maintained on an annual basis based on the initial NOC issuance date until vegetation has been established and the Notice of Termination has been submitted.

## VII CHANGES IN FACILITY DESIGN OR OPERATION

In accordance with ETS 5.3.C, facility design and operational changes were reviewed for potential effect on the environment. These reviews are completed per Tennessee Valley Authority Instruction IX Environmental Review in compliance with the National Environmental Policy Act and with TVA's Environmental Management System (EMS) procedure.

### A. Tests and Experiments

There were no tests or experiments conducted during this period that had an unreviewed environmental question of significant impact.

### B. Design and Operational Changes

The facility design and operational changes made during this reporting period with a potential impact on the environment were found to be within the scope of existing permits and in compliance with environmental regulations. Those changes reviewed are as follows:

### **Environmental Assessments**

None.

### **Categorical Exclusion Checklists (CEC)**

CEC 43840 - Sequoyah Nuclear Plant (SQN) has a Radiological Effluent Monitoring Program (REMP) Station on Hixson Pike in Soddy Daisy. At the request of the landowner, SQN plans to relocate and re-use this station on to TVA-owned property on the SQN Reservation. The new location is on existing mowed right-of-way for the road to the SQN Training Center at the intersection of the road to the SQN Livewell Center which is within the area included in the SQN License Renewal Environmental Impact Statement which included comprehensive site surveys for biological and cultural resources. There is an existing electric distribution line at the new site which will provide the power to the relocated station via a run of approximately 50' of underground conduit from the pole to the relocated station. The relocated station will be mounted on a 3' x 4'



x 4" concrete pad which will set directly on the ground. Only minor leveling of the ground will be required for the pad.

The current station at the old location will be removed from the concrete mounting pad and relocated for use at the new location. The 3' x 4' x 4" concrete pad, a power pole and lines from the local power company distribution system, and about 10' of underground conduit will either be removed and disposed by TVA or left in place at the discretion of the landowner.

CEC 44347 - The scope of the Sequoyah U1 moisture separator reheater (MSR) Replacement Project is to replace the existing U1 MSR's with new MSR's engineered and designed by Thermal Engineering International (TEI) based on the existing Watts Bar (WBN) U2 design installed in the mid 2000's. These new MSR's will improve moisture separation efficiency, vibration characteristics, improve superheat temperature, lower pressure drop, and reduce Flow Accelerated Corrosion (FAC). These new MSR's though heavier and larger will utilize the same support locations and inlet/outlet locations (with slight modifications to the nozzle projects) and will be installed by TVA's chosen implantation contractor.

CEC 46413 - Engineering Change Package (ECP) SQN-20-1891 will remove the old traveling water screen (TWS) and install new screens, a debris trough, a fish trough and trough supports and screen wash flow for the new troughs on the intake, install a fish return line exiting the east side of the intake and returning the fish via an fish return trough to the reservoir to prevent re-impingement. Installation of the new fish return trough will also require relocation of an existing boat ramp from the east side to the west side of the intake channel.

In summary, there were no facility designs or operational changes from October 1, 2020 through September 30, 2021, which resulted in a significant environmental impact or change to the findings of the FES. The CECs are maintained in an electronic database.

## **VIII NON-ROUTINE REPORTS**

None.

## **IX SPECIAL STUDIES**

None.

## **X CHANGES IN APPROVED ENVIRONMENTAL TECHNICAL SPECIFICATION**

There were no changes in approved ETSs during this period.