

August 14, 1989

Docket Nos. 50-327
and 50-328

Mr. Oliver D. Kingsley, Jr.
Manager of Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION (TAC R00499/
R00500) (TS 88-14) - SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

The Commission has issued the enclosed Amendment No. 125 to Facility Operating License No. DPR-77 and Amendment No. 114 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. These amendments are in response to your application dated December 2, 1988.

The amendments modify the Sequoyah Nuclear Plant, Units 1 and 2, Technical Specifications. The changes revise Table 3.3-12, "Radioactive Liquid Effluent Monitoring Instrumentation," to require a minimum of one liquid effluent radiation monitor channel to be operable for each header for the effluent from the essential raw cooling water system.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original signed by

Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.125 to License No. DPR-77
2. Amendment No.114 to License No. DPR-79
3. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Oliver D. Kingsley, Jr.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 125
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated December 2, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 125, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 14, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 125

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

3/4 3-70

INSERT

3/4 3-70

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>OPERABLE</u>	<u>MINIMUM CHANNELS ACTION</u>
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line	1	30
b. Steam Generator Blowdown Effluent Line	1	31
c. Condensate Demineralizer Effluent Line	1	30
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Essential Raw Cooling Water Effluent Header**	1	32
b. Turbine Building Sump Effluent Line	1	32
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	33
b. Condensate Demineralizer Effluent Line	1	33
c. Steam Generator Blowdown Effluent Line	1	33
d. Cooling Tower Blowdown Effluent Line	1	33
4. TANK LEVEL INDICATING DEVICES		
a. Condensate Storage Tank	1	34
b. Steam Generator Layup Tank*	1	34

*Required when connected to the secondary system

**Requires a minimum of one channel per header to be operable



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 114
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated December 2, 1988, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.114 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: August 14, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 114

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf pages* are provided to maintain document completeness.

REMOVE

3/4 3-69

3/4 3-70

INSERT

3/4 3-69

3/4 3-70*

TABLE 3.3-12
RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
1. GROSS RADIOACTIVITY MONITORS PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line	1	30
b. Steam Generator Blowdown Effluent Line	1	31
c. Condensate Demineralizer Effluent Line	1	30
2. GROSS RADIOACTIVITY MONITORS NOT PROVIDING AUTOMATIC TERMINATION OF RELEASE		
a. Essential Raw Cooling Water Effluent Header**	1	32
b. Turbine Building Sump Effluent Line	1	32
3. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	33
b. Condensate Demineralizer Effluent Line	1	33
c. Steam Generator Blowdown Effluent Line	1	33
d. Cooling Tower Blowdown Effluent Line	1	33
4. TANK LEVEL INDICATING DEVICES		
a. Condensate Storage Tank	1	34
b. Steam Generator Layup Tank*	1	34

*Required when connected to the secondary system.

**Requires a minimum of one channel per header to be operable.

TABLE 3.3-12 (Continued)
RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>ACTION</u>
5. CONTINUOUS COMPOSITE SAMPLER AND SAMPLE FLOW MONITOR		
a. Condensate Demineralizer Regenerant Effluent Line	1	35



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ENCLOSURE 3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 125 TO FACILITY OPERATING LICENSE NO. DPR-77
AND AMENDMENT NO. 114 TO FACILITY OPERATING LICENSE NO. DPR-79

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

DOCKET NOS. 50-327 AND 50-328

1.0 INTRODUCTION

By letter dated December 2, 1988, the Tennessee Valley Authority (TVA) proposed to modify the Sequoyah Nuclear Plant (SQN), Units 1 and 2, Technical Specifications (TS). The proposed changes are to revise Table 3.3-12, "Radioactive Liquid Effluent Monitoring Instrumentation." These changes will clearly state the minimum radiation monitor channels required to be operable for each header for the effluent from the essential raw cooling water (ERCW) system.

TVA stated that it was requesting this change to avoid misinterpretations of the limiting condition for operation (LCO) 3.3.3.9 and Table 3.3-12 with regard to the minimum number of liquid effluent radiation monitor channels required to be operable for the ERCW effluent headers. On June 5, 1988, TVA discovered that it was in noncompliance with LCO 3.3.3.9 because of an incorrect interpretation of the minimum number of operable radiation monitor channels required for the ERCW effluent headers. This noncompliance is discussed in Licensee Event Report 327/88-002.

Table 3.3-12 lists the required monitoring instrumentation for the ERCW effluent "line" and gives the minimum number of monitor channels required to be operable as one. Because there are "A" and "B" trains of the ERCW, each with two radiation monitors for each discharge header, one monitor for each train must be operable. On January 4, 1988, TVA had both the liquid effluent monitors on train "B" inoperable and did not comply with LCO 3.3.3.9.

TVA concluded that a sufficient description to determine the minimum number of monitor channels required to meet LCO 3.3.3.9 did not exist in Table 3.3-12. This insufficient description resulted in operations personnel incorrectly interpreting the requirements for compliance with LCO 3.3.3.9 for the ERCW headers. Therefore, TVA proposed the TS changes in its submittal dated December 2, 1988 to correct Table 3.3-12.

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2.0 EVALUATION

The ERCW system is described in Section 9.2.2 of the Sequoyah Final Safety Analysis Report (FSAR). It is designed to supply cooling water to various components within both the primary and secondary sections of each unit. Sufficient redundancy of piping and components is provided to ensure that cooling water is maintained to vital loads at all times. The ERCW system draws water from the Tennessee River at the ERCW intake structure and discharges back to the river through two 36-inch discharge lines which TVA refers to as two headers. The two lines or headers join into a common 48 inch line to discharge the ERCW effluent. The ERCW effluent headers consists of an A train and B train discharge header on which radiation monitors O-RM-90-133 and O-RM-90-140 (A train) and O-RM-90-134 and O-RM-90-141 (B train) are located. There are two radiation monitors on each of the two ERCW discharge headers.

General Design Criteria (GDC) 64 requires that all effluent discharge paths be monitored for radioactive releases under normal operations. Regulatory Guide (RG) 1.21 which provides guidance on complying with GDC 64 states that continuous monitoring should be provided for liquid effluent releases. Section 11.4.2.1.2 of the FSAR states that continuous monitoring is done at Sequoyah with two radiation monitors on each of the two discharge headers from the ERCW system. These monitors, which were listed above, have high radioactivity setpoints so that count rates above background are alarmed. This is to prevent the release of radioactive materials into the environment and to detect tube leakage from heat exchanges served by the ERCW. These monitors meet GDC 4 and RG 1.21.

TVA stated that the proposed change will clearly distinguish the A and B train headers and the minimum number of radiation monitors lines required to be operable. There must be a minimum of one monitor operable on each of the two ERCW discharge headers. If one of the two headers does not have an operable monitor, TVA must follow Action 32 of Table 3.3-12 for that header.

TVA has proposed for Table 3.3-12 to (1) replace the word "line," in the phrase "Essential Raw Cooling Water Effluent Line," by the word "header" and (2) add the footnote, "requires a minimum of one channel per header to be operable." The number of minimum channels required to be operable and the action if this is not met are not being changed by the proposed TS changes. These changes will make it clear that both of the ERCW discharge headers must have a minimum of one operable radiation monitor. Therefore, the staff concludes that the proposed changes are acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no

public comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (53 FR 53098) on December 30, 1988 and consulted with the State of Tennessee. No public comments were received and the State of Tennessee did not have any comments.

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: J. Donohew

Dated: August 14, 1989