October 30, 1987

Docket Nos. 50-327/328

Mr. S. A. White Manager of Nuclear Power Tennessee Valley Authority 6N 38A Lookout Place 1101 Market Street Chattanooga, Tennessee 37402-2801

Dear Mr. White:

SUBJECT: DELETION OF CHLORINE DETECTION LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS (TSC 78) (TAC 64571, 64572)

Sequoyah Nuclear Plant, Units 1 and 2 Re:

The Commission has issued the enclosed Amendment No. 62 to Facility Operating License No. DPR-77 and Amendment No. 54 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 January 21, 1987, as clarified by letter dated March 25, 1987.

The changes delete Limiting Condition for Operation (LCO) 3.3.3.6, "Chlorine Detection Systems," and the associated surveillance requirements (SR 4.3.3.6) and bases.

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:

8711050214 871030 PDR ADDCK 05000327 PDR PDR	John A. Zwolinski, Assistant Director for Projects TVA Projects Division Office of Special Projects		
Enclosures: 1. Amendment No. 62 to License No. DPR-77 2. Amendment No. 54 to License No. DPR-79 3. Safety Evaluation cc w/enclosures: See next page	DISTRIBUTION: Docket File NRC PDR Local PDR JAxelrad SEbneter SRichardson JZwolinski FMiraglia SRConnelly, OIA TVA-Bethesda	BDLiaw EJordan GZech, RII JPartlow DHagan GPA/PA ACRS (10) EButcher Projects Rdg JWatt	JDonohew OGC-BETH TBarnhart (8) Wanda Jones BKSingh/MFields TRotella (2) CJamerson (2) LFMB SQN File JWing
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OSP:TVA/LA CJamerson C TRotel 19 8/28/87 249787	BDLiaw 9/9/87 9/	-BETH OSP - Asrdenich JAZV - 1/87 p/	AD/P OSR: 14 volinski JWatt 30/87 G14/8

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Sincerely,

SRConnelly, OIA

TVA-Bethesda

Original signed by:

John A. Zwolinski, Assistant Director for Projects **TVA Projects Division** Office of Special Projects

Enclosures:	DISTRIBUTION:
1. Amendment No. 62 to License No. DPR-77	Docket File NRC PDR
2. Amendment No. 54 to License No. DPR-79	Local PDR JAxelrad
3. Safety Evaluation	SEbneter SRichardson
cc w/enclosures:	JZwolinski FMiraglia

BDLiaw EJordan GZech, RII **JPartlow** DHagan GPA/PA ACRS (10) EButcher Projects Rdg JWatt

JDonohew OGC-BETH TBarnhart (8) Wanda Jones BKSingh/MFields TRotella (2) CJamerson (2) LFMB SQN File JWing

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See next page

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

October 30, 1987

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John A. Zwolinski, Assistant Director for Projects TVA Projects Division Office of Special Projects

Enclosures:

- 1. Amendment No. 62 to License No. DPR-77
- 2. Amendment No. 54 to License No. DPR-79
- 3. Safety Evaluation

cc w/enclosures: See next page Mr. S. A. White Tennessee Valley Authority

cc: General Counsel Tennessee Valley Authority 400 West Summit Hill Drive E11 B33 Knoxville, Tennessee 37902

Mr. R. L. Gridley Tennessee Valley Authority 5N 157B Lookout Place Chattanooga, Tennessee 37402-2801

Mr. H. L. Abercrombie Tennessee Valley Authority Sequoyah Nuclear Plant P.O. Box 2000 Soddy Daisy, Tennessee 37379

Mr. M. R. Harding Tennessee Valley Authority Sequoyah Nuclear Plant P.O. Box 2000 Soddy Daisy, Tennessee 37379

Mr. D. L. Williams Tennessee Valley Authority 400 West Summit Hill Drive W10 B85 Knoxville, Tennessee 37902

County Judge Hamilton County Courthouse Chattanooga, Tennessee 37402 Sequoyah Nuclear Plant

Regional Administrator, Region II U.S. Nuclear Regulatory Commission 101 Marietta Street, N.W. Atlanta, Georgia 30323

Resident Inspector/Sequoyah NP c/o U.S. Nuclear Regulatory Commission 2600 Igou Ferry Road Soddy Daisy, Tennessee 37379

Mr. Richard King c/o U.S. GAO 1111 North Shore Drive Suite 225, Box 194 Knoxville, Tennessee 37919

Tennessee Department of Public Health ATTN: Director, Bureau of Environmental Health Services Cordell Hull Building Nashville, Tennessee 37219

Mr. Michael H. Mobley, Director Division of Radiological Health T.E.R.R.A. Building 150 9th Avenue North Nashville, Tennessee 37203



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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. 62 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 January 21, 1987, as clarified by a letter dated March 25, 1987, 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.

- 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. 62, 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

John A. Zwolinski, Assistant Director for Projects TVA Projects Division Office of Special Projects

Attachment: Changes to the Technical Specifications

Date of Issuance: October 30, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 62

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. Overleaf pages* are provided to maintain document completeness.

REMOVE

INSERT

V	V
V I	VI*
3/4 3-53	3/4 3-53*
3/4 3-54	3/4 3-54
B 3/4 3-3	B 3/4 3-3
B 3/4 3-4	B 3/4 3-4*

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TABLE 4.3-6

REMOTE SHUTDOWN MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT		CALIBRATION
1. Source Range Nuclear Flux	М	R
2. Reactor Trip Breaker Indication	М	N.A.
3. Reactor Coolant Temperature - Hot Leg	М	R
4. Pressurizer Pressure	Μ	R
5. Pressurizer Level	М	R
6. Steam Generator Pressure	Μ	R
7. Steam Generator Level	M	R
8. Full Length Control Rod Position Limit Switches	Μ	R
9. RHR Flow Rate	M	R
10. RHR Temperature	M	R
11. Auxiliary Feedwater Flow Rate	м	R
12. Pressurizer Relief Tank Pressure	м	R
13. Containment Pressure	м	R

SEQUOYAH - UNIT 1

INSTRUMENTATION

BASES'

design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10 CFR Part 100. This instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs," February 1972.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility and the potential capability for subsequent cold shutdown from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR 50.

3/4.3.3.6 CHLORINE DETECTION SYSTEMS

This specification deleted.

3/4.3.3.7 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975.

SEQUOYAH - UNIT 1

Revised 08/18/87 Amendment No. 62



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. 54 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 January 21, 1987, as clarified by a letter dated March 25, 1987, 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.

- 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. 54, 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

John A. Zwolinski, Assistant Director for Projects TVA Projects Division Office of Special Projects

Attachment: Changes to the Technical Specifications

Date of Issuance: October 30, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 54

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 INSERT V V VI 3/4 3-55 3/4 3-56 3/4 3-56* B 3/4 3-3 B 3/4 3-4

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INSTRUMENTATION

CHLORINE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

This specification deleted.

INSTRUMENTATION

BASES

3/4.3.3.3 SEISMIC INSTRUMENTATION (Continued)

recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs," February 1972.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility and the potential capability for subsequent cold shutdown from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR 50.

3/4.3.3.6 CHLORINE DETECTION SYSTEMS

This specification deleted.

3/4.3.3.7 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975.

Sequoyah has four separate methods of determining safety valve position (i.e., open or closed).

a. Acoustic flow monitors mounted on each safety valve line (one per valve). A flow indicating module in the main control room is calibrated to detect failure of a valve to reclose. An alarm in the main control room will actuate when any valve is not fully closed.

SEQUOYAH - UNIT 2



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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 62 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 54 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

In the Final Safety Analysis Report the applicant considered chlorine as a potentially hazardous material frequently shipped by barge past the plant site. To ensure habitability of the main control room, chlorine detectors were installed at the air intakes of the main control room building. The staff concluded in the safety evaluation dated March 1979 that the chlorine detection system was acceptable.

By letter dated January 21, 1987, and clarified by letter dated March 25, 1987, the licensee proposed to delete the chlorine detection system from the plant, and to amend the plant Technical Specifications (TS) by deleting the limiting condition for operation, surveillance requirements and bases for the chlorine detection system from the TS (3.3.3.6, 4.3.3.6 and bases 3/4.3.3.3.6, respectively).

2.0 EVALUATION

The licensee indicated that the shipping frequency by barges past the site is now less than 50 per year. All major roads and rail lines lie outside the 5-mile radius of the site. There are no industrial or military facilities within 5 miles of the site. Chlorine gas is not stored or transported onsite in quantities greater than 100 pounds.

The staff determined that, in accordance, with Regulatory Positions C.1, C.2, and C.3 in Regulatory Guide 1.78, "Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room during a Postulated Hazardous Chemical Release," barge shipments of less than 50 per year past the site are not considered frequent enough to warrant evaluation. In addition, any chemical, in any quantity, that is stored, processed, or transported beyond 5 miles from the site need not be considered. Any chemical that is stored, processed, or transported onsite in quantities less than 100 pounds also need not be evaluated. Accordingly, chlorine gas need not now be evaluated for main control room habitability on the basis of the newly provided information on barge shipment frequency and site characteristics of the plant.

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The licensee identified a number of toxic chemicals that are stored onsite in quantities greater than 100 pounds. Among them, only hydrazene and ammonia need be evaluated. The other chemicals have either high boiling points (low volatility) or extremely low toxicity, and therefore, need not be considered for control room habitability. Hazard analysis case studies performed in accordance with Regulatory Guide 1.78 guidelines produced calculated concentrations in the Sequoyah control room below the threshold limit set in Regulatory Guide 1.78. The results of the studies showed that neither hydrazine nor ammonia would adversely affect control room habitability.

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 and changes to the surveillance requirements. 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 the amendments.

4.0 CONCLUSION

The staff concludes that the licensee's proposed changes of the plant TS on the Chlorine Detection System meet the acceptance criteria in Sections 2.2.1, 2.2.2, 2.2.3, and 6.4 of Standard Review Plan (NUREG-0800, July 1981) and are, therefore, acceptable. No toxic chemical that might be transported near the plant site or stored onsite is identified to pose potential adverse effects on habitability of the main control room.

Based on the considerations discussed above, the staff concludes 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 these amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributors: J. Watt, T. Rotella, J. Wing

Dated: October 30, 1987