

October 21, 1982

Docket Nos: 50-327
and 50-328

Mr. H. G. Parris
Manager of Power
Tennessee Valley Authority
500A Chestnut Street, Tower II
Chattanooga, Tennessee 37401

Dear Mr. Parris:

Subject: Issuance of Amendment No. 16 to Facility Operating License
No. DPR-77 and Amendment No. 7 to Facility Operating
License No. DPR-79 - Sequoyah Nuclear Plant, Units 1 and 2

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 16 to
Facility Operating License No. DPR-77 and Amendment No. 7 to Facility Operating
License No. DPR-79.

The amendments change the steam generator low-low level reactor trip and auxiliary
feedwater pump start setpoints.

A copy of the related safety evaluation supporting Amendment No. 16 to Facility
Operating License DPR-77 and Amendment No. 7 to Facility Operating License DPR-79
is enclosed. Also enclosed is a copy of the Federal Register Notice which has
been forwarded to the Office of the Federal Register for publication.

Sincerely,

Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosures:

1. Amendment No. 16 to DPR-77
2. Amendment No. 7 to DPR-79
3. Safety Evaluation
4. Federal Register Notice

cc w/enclosures:
See next page

B211060374 B21021
PDR ADOCK 05000327
PDR

OFFICE	LA:DL:NB #4	DL:LB #4	DL:LB #4	DL:LB #4			
SURNAME	MDuncan/hmc	MMiller	CStahle	EAdensam			
DATE	9/16/82	9/16/82	9/14/82	9/20/82			

SEQUOYAH

Mr. H. G. Parris
Manager of Power
Tennessee Valley Authority
500A Chestnut Street, Tower II
Chattanooga, Tennessee 37401

cc: Herbert S. Sanger, Jr., Esq.
General Counsel
Tennessee Valley Authority
400 Commerce Avenue
E 11B 33
Knoxville, Tennessee 37902

Mr. H. N. Culver
Tennessee Valley Authority
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Knoxville, Tennessee 37902

Mr. Bob Faas
Westinghouse Electric Corp.
P.O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. Jerry Wills
Tennessee Valley Authority
400 Chestnut Street, Tower II
Chattanooga, Tennessee 37401

Mr. Donald L. Williams, Jr.
Tennessee Valley Authority
400 Commerce Avenue, W10C131C
Knoxville, Tennessee 37902

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

Director, Office of Urban
& Federal Affairs
108 Parkway Towers
404 James Robertson Way
Nashville, Tennessee 37219

Attorney General
Supreme Court Building
Nashville, Tennessee 37219

U.S. Environmental Protection
Agency
ATTN: EIS Coordinator
345 Courtland Street
Atlanta, Georgia 30308

Honorable Don Moore, Jr.
County Judge
Hamilton County Courthouse
Chattanooga, Tennessee 37402

Regional Administrator
Nuclear Regulatory Commission,
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

OFFICE ▶
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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 16
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Sequoyah Nuclear Plant, Unit 1 (the facility) Facility Operating License No. DPR-77 filed by the Tennessee Valley Authority (licensee), dated July 15, 1982, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the license, as amended, 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 hereby amended by page changes to the Appendix A Technical Specifications as indicated in the attachments 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 Appendix A, as revised through Amendment No. 16, are hereby incorporated into the license.

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SURNAME							
DAT	8211060376	821021					
	PDR	ADDOCK	05000327				
	P		PDR				

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



Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Appendix A Technical
Specification Changes

Date of Issuance: October 21, 1982

OFFICE	LA:DL:LB #4	DL:LB #4	DL:LB #4	OELD	DL:LB #4	
SURNAME	MDuncan/hmc	MMiller	CStahle		EAdensam	FRosa
DATE	9/16/82	9/16/82	9/14/82	9/14/82	10/20/82	9/27/82

ATTACHMENT TO LICENSE AMENDMENT NO. 16

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Amended
Page

2-6
3/4 3-27

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TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
13. Steam Generator Water Level--Low-Low	\geq 18% of narrow range instrument span--each steam generator	\geq 17% of narrow range instrument span--each steam generator
14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	$<$ 40% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 25% of narrow range instrument span--each steam generator	$<$ 42.5% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 24.0% of narrow range instrument span--each steam generator
15. Undervoltage-Reactor Coolant Pumps	\geq 4830 volts--each bus	\geq 4761 volts--each bus
16. Underfrequency-Reactor Coolant Pumps	\geq 56.0 Hz - each bus	\geq 55.9 Hz - each bus
17. Turbine Trip A. Low Trip System Pressure B. Turbine Stop Valve Closure	\geq 45 psig \geq 1% open	\geq 43 psig \geq 1% open
18. Safety Injection Input from ESF	Not Applicable	Not Applicable
19. Intermediate Range Neutron Flux - (P-6) Enable Block Source Range Reactor Trip	\geq 1×10^{-10} amps	\geq 6×10^{-11} amps
20. Power Range Neutron Flux (not P-10) Input to Low Power Reactor Trips Block P-7	$<$ 10% of RATED THERMAL POWER	$<$ 11% of RATED THERMAL POWER

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. AUXILIARY FEEDWATER		
a. Manual	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Main Steam Generator Water Level-low-low	> 18% of narrow range Instrument span each steam generator	> 17% of narrow range Instrument span each steam generator
d. S.I.	See 1 above (all SI Setpoints)	
e. Station Blackout	0 volts with a 5.0 second time delay	0 volts with a 5.0 ± 1.0 second time delay
f. Trip of Main Feedwater Pumps	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure-Low	> 2 psig (motor driven pump) ≥ 6.5 psig (turbine driven pump)	> 1 psig (motor driven pump) ≥ 5.5 psig (turbine driven pump)
7. LOSS OF POWER		
a. 6.9 kv Shutdown Board Undervoltage		
1. Loss of Voltage	0 volts with a 1.5 second time delay	0 volts with a 1.5 ± 0.5 second time delay
2. Load Shedding	0 volts with a 5.0 second time delay	0 volts with a 5.0 ± 1.0 second time delay
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure Manual Block of Safety Injection P-11	≤ 1970 psig	≤ 1980 psig

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 7
License No. DPR-79

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Sequoyah Nuclear Plant, Unit 2 (the facility) Facility Operating License No. DPR-79 filed by the Tennessee Valley Authority (licensee), dated July 15, 1982, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the license, as amended, 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 hereby amended by page changes to the Appendix A Technical Specifications as indicated in the attachments 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 Appendix A, as revised through Amendment No. 7, are hereby incorporated into the license.

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SURNAME							
DATE	8211060381	821021					
	PDR ADDCK	05000327					
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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

S
Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Attachment:
Appendix A Technical
Specification Changes

Date of Issuance: October 21, 1982

OFFICE	LA:DL:LB #4	DL:LB #4	DL:LB #4	OELD	DL:LB #4	ICSB	
SURNAME	<i>MD</i> MDuncan/hmc	<i>MM</i> MMiller	<i>CS</i> CStahle	<i>Walt</i> Walt	EAdensam	<i>FR</i> FRosa	
DATE	9/16/82	9/16/82	9/14/82	9/14/82	10/14/82	9/27/82	

ATTACHMENT TO LICENSE AMENDMENT NO. 7

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

<u>Amended</u>	
<u>Page</u>	
	2-6
3/4	3-27

OFFICE ▶	.....	.....	.....	.....	.....	.....	.....
SURNAME ▶	.....	.....	.....	.....	.....	.....	.....
DATE ▶	.....	.....	.....	.....	.....	.....	.....

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
13. Steam Generator Water Level--Low-Low	\geq 18% of narrow range instrument span--each steam generator	\geq 17% of narrow range instrument span--each steam generator
14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	$<$ 40% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 25% of narrow range instrument span--each steam generator	$<$ 42.5% of full steam flow at RATED THERMAL POWER coincident with steam generator water level \geq 24% of narrow range instrument span--each steam generator
15. Undervoltage-Reactor Coolant Pumps	\geq 4830 volts--each bus	\geq 4761 volts--each bus
16. Underfrequency-Reactor Coolant Pumps	\geq 56 Hz - each bus	\geq 55.9 Hz - each bus
17. Turbine Trip A. Low Trip System Pressure B. Turbine Stop Valve Closure	\geq 45 psig \geq 1% open	\geq 43 psig \geq 1% open
18. Safety Injection Input from ESF	Not Applicable	Not Applicable
19. Intermediate Range Neutron Flux, P-6, Enable Block Source Range Reactor Trip	$\geq 1 \times 10^{-10}$ amps	$\geq 6 \times 10^{-11}$ amps
20. Power Range Neutron Flux (not P-10) Input to Low Power Reactor Trips Block P-7	$<$ 10% of RATED THERMAL POWER	\leq 11% of RATED THERMAL POWER

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. AUXILIARY FEEDWATER		
a. Manual	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Main Steam Generator Water Level-low-low	> 18% of narrow range Instrument span each steam generator	> 17% of narrow range Instrument span each steam generator
d. S.I.	See 1 above (all SI Setpoints)	
e. Station Blackout	0 volts with a 5.0 second time delay	0 volts with a 5.0 ± 1.0 second time delay
f. Trip of Main Feedwater Pumps	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure-Low	> 2 psig (motor driven pump) > 6.5 psig (turbine driven pump)	> 1 psig (motor driven pump) > 5.5 (turbine driven pump)
7. LOSS OF POWER		
a. 6.9 kv Shutdown Board Undervoltage		
1. Loss of Voltage	0 volts with a 1.5 second time delay	0 volts with a 1.5 ± 0.5 second time delay
2. Load Shedding	0 volts with a 5.0 second time delay	0 volts with a 5.0 ± 1.0 second time delay
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure Manual Block of Safety Injection P-11 ≤ 1970 psig		≤ 1980 psig

SEQUOYAH - UNIT 2

3/4 3-27

Amendment No. 7

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 16 TO FACILITY OPERATING LICENSE DPR-77
AND AMENDMENT NO. 7 TO FACILITY OPERATING LICENSE DPR-79
TENNESSEE VALLEY AUTHORITY

INTRODUCTION

On July 15, 1982, TVA informed the NRC of a proposed amendment to change the steam generator low-low level reactor trip and auxiliary feedwater pump start setpoints. The proposed change would decrease the setpoints by 3 percent. An October 7, 1982, letter to Harold R. Denton provided the justification for this change; the lower setpoint would allow greater flexibility during low power operations and reduce unnecessary reactor trips.

EVALUATION

The steam generator low-low level reactor trip and auxiliary feedwater pump start setpoints are identified in Tables 2.2-1 and 3.3-4 of Sequoyah Units 1 and 2 Technical Specifications. The staff agrees that the setpoints of items 13 and 6c. of Tables 2.2-1 and 3.3-4, respectively, can be changed to 18 percent. In conjunction, the corresponding allowable values in the tables can be changed to 17 percent. In the October 7 transmittal, TVA reported that 39 percent of the trips at Sequoyah Units 1 and 2 resulted from low-low steam generator levels. The lower setpoint will increase operational flexibility at the low-low steam generator levels reducing the likelihood of reactor trips which unnecessarily challenge the integrity of the reactor protection system.

The setpoint calculation is based upon the proprietary "Setpoint Methodology Report" by the Westinghouse Electric Corporation which the staff has found acceptable. The Setpoint Methodology Report concludes that the channel statistical allowance for the steam generator low-low level reactor trip is 16.2 percent which allows a 1.8 percent margin of safety (18 percent - 16.2 percent). At the time the 21% setpoint was established, the NRC was concerned that the setpoint just equaled the total error accumulation. The report concludes that while the margin of safety is reduced from 4.8 percent to 1.8 percent of level measurement spanned, it remains sufficient and alleviates the NRC concern. Also, the Setpoint Methodology Report has been used in other Westinghouse reports in addition to having been submitted on other dockets for the purpose of evaluating setpoints.

ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

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DA	8211060384	821021
P	PDR	ADDOCK	05000327
	P	PDR

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: October 21, 1982

Principal Contributors: Melanie Miller, Licensing Branch No. 4, DL
Carl Stahle, Licensing Branch No. 4, DL

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DATE ▶

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-327 AND 50-328

TENNESSEE VALLEY AUTHORITY

NOTICE OF ISSUANCE OF AMENDMENTS

FACILITY OPERATING LICENSE NOS. DPR-77 AND DPR-79

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 16 to Facility Operating License No. DPR-77 and Amendment No. 7 to Facility Operating License No. DPR-79, issued to Tennessee Valley Authority (licensee) for the Sequoyah Nuclear Plant, Units 1 and 2 (the facilities) located in Hamilton County, Tennessee. These amendments change the steam generator low-low level reactor trip and auxiliary feedwater pump start setpoints. The amendments are effective as of their dates of issuance.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) environmental impact statements, or negative declarations and environmental impact appraisals need not be prepared in connection with issuance of these amendments.

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DATE ▶

For further details with respect to this action, see (1) Tennessee Valley Authority letter dated July 15, 1982, (2) Amendment No. 16 to Facility Operating License No. DPR-77 with Appendix A Technical Specification page changes; (3) Amendment No. 7 to Facility Operating License No. DPR-79 with Appendix A Technical Specification page changes; and (4) the Commission's related Safety Evaluation.

All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C., and the Chattanooga Hamilton County Bicentennial Library, 1001 Broad Street, Chattanooga, Tennessee 37402. A copy of Amendment No. 16 and Amendment No. 7 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 21st day of October 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

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Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

OFFICE	LA:DL:LB.#4	DL:LB.#4	DL:LB.#4	OELD	DL:LB.#4		
SURNAME	MDuncan/hmc	MMiller	CStahle	<i>[Signature]</i>	EAdensam		
DATE	9/16/82	9/16/82	9/14/82	9/14/82	10/12/82		

October 21, 1982

AMENDMENT NO. 16 TO FACILITY OPERATING LICENSE DPR-77 - SEQUOYAH UNIT 1
AMENDMENT NO. 7 TO FACILITY OPERATING LICENSE DPR-79 - SEQUOYAH UNIT 2

DISTRIBUTION w/enclosures:

✓ Docket No. 50-327/328
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W. Jones (10)

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