Docket Nos.: 50-327
and 50-328

January 29, 1986

Mr. Steven A. White
Manager of Nuclear Power
Tennessee Valley Authority
6 North 38A Lookout Place
Chattanooga, Tennessee 37401

Dear Mr. White:

Subject: Issuance of Amendment No. 43 to Facility Operating License No. DPR-77 and Amendment No. 35 to Facility Operating License No. DPR-79 - Sequoyah Nuclear Plant, Units 1 and 2

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 43 to Facility Operating License No. DPR-77 and Amendment No. 35 to Facility Operating License No. DPR-79. These amendments are in response to your request dated May 6, 1985.

The amendments change the Technical Specifications to require that acoustic monitors be one of the two required channels of pressurizer power operated relief valve position indicators in accident monitoring tables and bases. The amendments are effective as of their date of issuance.

A copy of the related safety evaluation supporting Amendment No. 43 to Facility Operating License DPR-77 and Amendment No. 35 to Facility Operating License No. DPR-79 is enclosed.

Notice of issuance will be included in the Commission's next bi-monthly Federal Register notice.

Sincerely,

/S/

B. J. Youngblood, Director
PWR Project Directorate #4
Division of PWR Licensing-A

Enclosures:
1. Amendment No. 43 to DPR-77
2. Amendment No. 35 to DPR-79
3. Safety Evaluation

cc w/enclosures: See next page

* SEE PREVIOUS CONCURRENCES

PWR#4/DPWR-A	PWR#4/DPWR-A	PWR#4/DPWR-A	PWR#4/DPWR-A
*MDuncan/mac	*CStahle	*MMiller	BJYoungblood
12/02/85	12/03/85	12/03/85	01/28/85

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January 29, 1986

AMENDMENT NO.43 TO FACILITY OPERATING LICENSE NO. DPR-77 - Sequoyah Nuclear Plant
AMENDMENT NO.35 TO FACILITY OPERATING LICENSE NO. DPR-79 - Sequoyah Nuclear Plant

Distribution: w/enclosures
Docket File 50-327/328
NRC PDR
Local PDR
PRC System
NSIC
PWR#4 Rdg
MDuncan
CStahle
MMiller
OELD
RDiggs, ADM
JPartlow
BGrimes
LHarmon
MVirgilio, SSPB
TBarnhart (8)
FBurrows

Mr. S. A. White
Tennessee Valley Authority

Sequoyah Nuclear Plant

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Tennessee Department of Public
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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

County Judge
Hamilton County Courthouse
Chattanooga, Tennessee 37402

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

JAN 2 9 1986

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 43
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 May 6, 1985, 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 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 Appendix A, as revised through Amendment No. 43, are hereby incorporated into the license.

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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/

B. J. Youngblood, Director
PWR Project Directorate #4
Division of PWR Licensing-A

Attachment:
Appendix A Technical
Specification Changes

Date of Issuance: January 29, 1986

PWR#4/DPWR-A	PWR#4/DPWR-A	PWR#4/DPWR-A	OELD	PWR#4/DPWR-A
MDuncan/mac	CStahle	MMiller	SGTurk	BJYoungblood
12/ 2 /85	12/ 17 /85	12/ 3 /85	12/ 30 /85	11/ /85
			Subject to modifications	1-28-86

ATTACHMENT TO LICENSE AMENDMENT NO. 43

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 areas of change.

Amended Page
3/4 3-56
B3/4 3-3a

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE
1. Reactor Coolant T_{Hot} (Wide Range)	2	1
2. Reactor Coolant T_{Cold} (Wide Range)	2	1
3. Containment Pressure	2	1
4. Refueling Water Storage Tank Level	2	1
5. Reactor Coolant Pressure	2	1
6. Pressurizer Level (Wide Range)	2	1
7. Steam Line Pressure	2/steam line	1/steam line
8. Steam Generator Level - (Wide Range)	1/steam generator	1/steam generator
9. Steam Generator Level - (Narrow Range)	1/steam generator	1/steam generator
10. Auxiliary Feedwater Flow Rate	1/pump	1/pump
11. Reactor Coolant System Subcooling Margin Monitor	1	0
12. Pressurizer PORV Position Indicator*	2/valve#	1/valve
13. Pressurizer PORV Block Valve Position Indicator**	2/valve	1/valve
14. Safety Valve Position Indicator	2/valve#	1/valve
°15. Containment Water Level (Wide Range)	2	1
16. In Core Thermocouples	4/core quadrant	2/core quadrant

*Not applicable if the associated block valve is in the closed position.
**Not applicable if the block valve is verified in the closed position with power to the valve operator removed.
#At least one channel shall be the acoustic monitors.

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.

b. Temperature sensors downstream of each safety valve (one per valve). Temperature indication and alarm are provided in the main control room.

c. Pressurizer relief tank temperature, pressure and level indication, and alarm in main control room.

d. Pressurizer pressure indication and alarm in the main control room.

Although all the above position indicators for the pressurizer safety valves and the PORVs are acceptable as one of the channels, the acoustic monitors must be one of the two required operable chanels. In addition to the four methods described above, the PORVs use an electromagnetic "reed"-switch to determine valve position. The stem mounted switches are no longer in use since the PORVs were changed.

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

JAN 2 5 1986

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 35
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 May 6, 1985, 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 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 Appendix A, as revised through Amendment No.35, are hereby incorporated into 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

/s/

B. J. Youngblood, Director
PWR Project Directorate #4
Division of PWR Licensing-A

Attachment:
Appendix A Technical
Specification Changes

Date of Issuance: January 29, 1986

PWR#4/DPWR-A	PWR#4/DPWR-A	PWR#4/DPWR-A	OELD	PWR#4/DPWR-A
MDuncan/mac	CStahle	MMiller	[redacted]	BJYoungblood
12/ 2 /85	12/ 3 /85	12/3/85	12/ /85	11/ /85
			Subject to modifications	1-28-86

ATTACHMENT TO LICENSE AMENDMENT NO. 35

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

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 areas of change.

Amended Page
3/4 3-57
B3/4 3-3
B3/4 3-4

TABLE 3.3-10

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NO. OF CHANNELS	MINIMUM CHANNELS OPERABLE
1. Reactor Coolant T_{Hot} (Wide Range)	2	1
2. Reactor Coolant T_{Cold} (Wide Range)	2	1
3. Containment Pressure	2	1
4. Refueling Water Storage Tank Level	2	1
5. Reactor Coolant Pressure	2	1
6. Pressurizer Level (Wide Range)	2	1
7. Steam Line Pressure	2/steam line	1/steam line
8. Steam Generator Level - (Wide Range)	1/steam generator	1/steam generator
9. Steam Generator Level - (Narrow Range)	1/steam generator	1/steam generator
10. Auxiliary Feedwater Flow Rate	1/pump	1/pump
11. Reactor Coolant System Subcooling Margin Monitor	1	0
12. Pressurizer PORV Position Indicator*	2/valve#	1/valve
13. Pressurizer PORV Block Valve Position Indicator**	2/valve	1/valve
14. Safety Valve Position Indicator	2/valve#	1/valve
°15. Containment Water Level (Wide Range)	2	1
16. In Core Thermocouples	4/core quadrant	2/core quadrant

*Not applicable if the associated block valve is in the closed position.
**Not applicable if the block valve is verified in the closed position with power to the valve operator removed.
#At least one channel shall be the acoustic monitors.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data ia 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 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 Criteria 19 of 10 CFR 50.

3/4.3.3.6 CHLORINE DETECTION SYSTEMS

The OPERABILITY of the chlorine detection system ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release. This capability is required to protect control room personnel and is consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release," February 1975.

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.

b. Temperature sensors downstream of each safety valve (one per valve). Temperature indication and alarm are provided in the main control room.

c. Pressurizer relief tank temperature, pressure and level indication, and alarm in main control room.

d. Pressurizer pressure indication and alarm in the main control room.

3/4.3.3.7 ACCIDENT MONITORING INSTRUMENTATION (continued)

Although all the above position indicators for the pressurizer safety valves and the PORVs are acceptable as one of the channels, the acoustic monitors must be one of the two required operable chanels. In addition to the four methods described above, the PORVs use an electromagnetic "reed"-switch to determine valve position. The stem mounted switches are no longer in use since the PORVs were changed.

3/4.3.3.8 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

3/4.3.3.9 RADIOACTIVE LIQUID EFFLUENT INSTRUMENTATION

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effuents during actual or potential releases of liquid effluents. The alarm/trip setpoints for these instruments shall be calculated in accordance with the procedures in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

3/4.3.3.10 RADIOACTIVE GASEOUS EFFLUENT INSTRUMENTATION

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The alarm/trip setpoints for these instruments shall be calculated in accordance with the procedures in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This instrumentation also includes provisions for monitoring the concentrations of potentially explosive gas mixtures in the waste gas holdup system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

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

JAN 2 9 1986

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 43TO FACILITY OPERATING LICENSE DPR-77

AND AMENDMENT NO.35 TO FACILITY OPERATING LICENSE DPR-79

TENNESSEE VALLEY AUTHORITY

INTRODUCTION

By letter dated May 6, 1985, the Tennessee Valley Authority (the licensee) requested an amendment to the operating license to change the Technical Specifications of Sequoyah Nuclear Plant, Units 1 and 2. Specifically, the change for each unit requires the acoustic monitors to be one of the two required channels of pressurizer power operated relief valve (PORV) and safety valve (SV) position indicators in accident monitoring tables and bases.

EVALUATION

The licensee proposes to add a footnote to Table 3.3-10 stating that one channel of the required number of channels for the PORV and SV position indicators shall be the acoustic monitors. The licensee has further proposed to add to the Bases of Section 3/4.3.3.7 a discussion of the separate methods of determining PORV and SV position.

These separate methods include the acoustic flow monitors mounted on each safety valve line (one per valve). Failure of a valve to reclose would be detected by a flow indicating module in the main control room. When any valve is not fully closed an alarm in the main control room will actuate. The second method consists of temperature sensors downstream of each safety valve (one per valve) with temperature indication and alarm provided in the main control room. The third method of detecting PORV and SV position is provided through main control room alarms for pressure relief tank temperature, pressure and level. The last method is through pressurizer pressure indication and alarm in the main control room.

These changes are proposed to address the staff concern identified in Inspection Report 50-327/83-26 and 50-328/83-26 for Sequoyah, Units 1 and 2, regarding the acoustic monitors as PORV and SV position indicators. The proposed changes ensure that the acoustic flow monitors will be one of the two required position indication channels for the PORVs and SVs. The proposed change results in a more restrictive limiting condition for operation in that the acoustic flow monitors are required to be one of the means of position indication. The staff also concludes that proposed changes resolve the concerns in the inspection reports and finds the revisions acceptable for incorporation into the Sequoyah, Units 1 and 2, Technical Specifications.

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ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the 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 50.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register on July 31, 1985 (50 FR 31072) and consulted with the state of Tennessee. No public comments were received, and the state of Tennessee did not have any comments.

We have 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: F. Burrows, Electrical, Instrumentation and Control Systems Branch, PWR-A
M. Miller, PWR#4, PWR-A
C. Stahle, PWR#4, PWR-A

Dated: January 29, 1986