

February 9, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: ISSUANCE OF AMENDMENTS (TAC NOS. M91131 AND M91132) (TS 94-16)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 195 to Facility Operating License No. DPR-77 and Amendment No. 186 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 16, 1994, which was supplemented by letter dated January 19, 1995.

The amendments remove the 900 rpm emergency diesel generator surveillance test criteria and a requirement that the plant be shutdown for performance of the interdependence diesel generator tests.

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

Sincerely,

ORIGINAL SIGNED BY:

David E. LaBarge, Sr. Project Manager
Project Directorate II-4
Division of Reactor Projects - I/I
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

- Enclosures: 1. Amendment No. 195 to
License No. DPR-77
2. Amendment No. 186 to
License No. DPR-79
3. Safety Evaluation

cc w/enclosures: See next page

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AMENDMENT NO. 195 FOR SEQUOYAH UNIT NO. 1 - DOCKET NO. 50-327 and
AMENDMENT NO. 186 FOR SEQUOYAH UNIT NO. 2 - DOCKET NO. 50-328
DATED: February 9, 1995

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Docket Files

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ACRS(4)

OPA

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T9-E10

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M. Lesser

RII



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
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 16, 1994, with supplemental information supplied January 19, 1995, 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. 195, 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, to be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 9, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 195

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 8-3

3/4 8-5

INSERT

3/4 8-3

3/4 8-5

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator set shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:
 1. Verifying the fuel level in the engine-mounted day tanks.
 2. Verifying the fuel level in the 7 day tank.
 3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the engine mounted fuel tanks.
 4. *Verifying the diesel starts from ambient condition and achieves in less than or equal to 10 seconds generator voltage and frequency of 6900 ± 690 volts and 60 ± 1.2 Hz. The diesel generator shall be started for this test by using one of the following signals with startup on each signal verified at least once per 124 days:
 - a) Manual.
 - b) Simulated loss of offsite power by itself.
 - c) An ESF actuation test signal by itself.
 5. *Verifying the generator is synchronized, loaded between 3960 kw and 4400 kw in less than or equal to 60 seconds, and operates for greater than or equal to 60 minutes, and
 6. Verifying the diesel generator is aligned to provide standby power to the associated shutdown boards.
- b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the engine-mounted fuel tanks.
- c. At least once per 92 days and from new fuel oil prior to addition to the 7-day tanks by verifying that a sample obtained in accordance with ASTM-D270-1975 has a water and sediment content of less than or equal to .05 volume percent and a kinematic viscosity @ 100°F of greater than or equal to 1.8 but less than or equal to 5.8 centi-stokes when tested in accordance with ASTM-D975-77, and an impurity level of less than 2 mg. of insolubles per 100 ml. when tested in accordance with ASTM-D2274-70.

*The diesel generator start (10 sec) and load (60 sec) from standby conditions shall be performed at least once per 184 days in these surveillance tests. All other diesel generator engine starts and loading for the purpose of this surveillance testing may be preceded by an engine idle start, followed by gradual acceleration to synchronous speed (approximately 900 rpm), synchronization, and gradual loading.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the shutdown board and/or safety injection actuation signal.
- 7. Verifying the diesel generator operates for at least 24 hours. During the first 2 hours to 2.25 hours of this test, the diesel generator shall be loaded between 4620 kw and 4840 kw and between 2380 kvar and 2600 kvar and during the remaining hours of this test, the diesel generator shall be loaded between 3960 kw and 4400 kw and between 2140 kvar and 2370 kvar.

The generator voltage and frequency shall be 6900 ± 690 volts and 60 ± 1.2 Hz within 10 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test. Within 5 minutes after completing this 24 hour test, perform Specification 4.8.1.1.2.d.4.b.
- 8. Verifying that the auto-connected loads to each diesel generator do not exceed the continuous rating of 4400 kw.
- 9. Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.
 - b) Transfer its loads to the offsite power source, and
 - c) Be restored to its shutdown status.
- 10. Verifying that the automatic load sequence timers are OPERABLE with the setpoint for each sequence timer within ± 5 percent of its design setpoint.
- 11. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:
 - a) Engine overspeed
 - b) 86 GA lockout relay
- e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting the diesel generators simultaneously and verifying that each diesel generator achieves in less than or equal to 10 seconds, 6900 ± 690 volts and 60 ± 1.2 Hz.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 186
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 16, 1994, with supplemental information supplied January 19, 1995, 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.

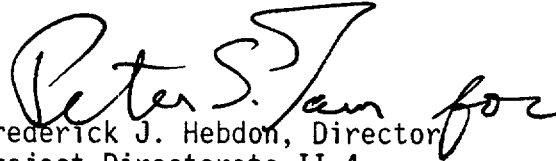
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 186, 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, to be implemented within 45 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 9, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 186

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.

REMOVE
3/4 8-3

3/4 8-5

INSERT
3/4 8-3

3/4 8-5

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator set shall be demonstrated OPERABLE:

- a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:
 1. Verifying the fuel level in the engine-mounted day tanks.
 2. Verifying the fuel level in the 7 day tank.
 3. Verifying the fuel transfer pump starts and transfers fuel from the storage system to the engine mounted fuel tanks.
 4. *Verifying the diesel starts from ambient condition and achieves in less than or equal to 10 seconds generator voltage and frequency of 6900 ± 690 volts and 60 ± 1.2 Hz. The diesel generator shall be started for this test by using one of the following signals with startup on each signal verified at least once per 124 days:
 - a) Manual.
 - b) Simulated loss of offsite power by itself.
 - c) An ESF actuation test signal by itself.
 5. *Verifying the generator is synchronized, loaded between 3960 kw and 4400 kw in less than or equal to 60 seconds, and operates for greater than or equal to 60 minutes, and
 6. Verifying the diesel generator is aligned to provide standby power to the associated shutdown boards.
- b. At least once per 31 days and after each operation of the diesel where the period of operation was greater than or equal to 1 hour by checking for and removing accumulated water from the engine-mounted fuel tanks.
- c. At least once per 92 days and from new fuel oil prior to addition to the 7-day tanks by verifying that a sample obtained in accordance with ASTM-D270-1975 has a water and sediment content of less than or equal to .05 volume percent and a kinematic viscosity @ 100°F of greater than or equal to 1.8 but less than or equal to 5.8 centistokes when tested in accordance with ASTM-D975-77, and an impurity level of less than 2 mg. of insolubles per 100 ml. when tested in accordance with ASTM-D2274-70.

*The diesel generator start (10 sec) and load (60 sec) from standby conditions shall be performed at least once per 184 days in these surveillance tests. All other diesel generator engine starts and loading for the purpose of this surveillance testing may be preceded by an engine idle start, followed by gradual acceleration to synchronous speed (approximately 900 rpm), synchronization, and gradual loading.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the shutdown board and/or safety injection actuation signal.
- 7. Verifying the diesel generator operates for at least 24 hours. During the first 2 hours to 2.25 hours of this test, the diesel generator shall be loaded between 4620 kw and 4840 kw and between 2380 kvar and 2600 kvar and during the remaining hours of this test, the diesel generator shall be loaded between 3960 kw and 4400 kw and between 2140 kvar and 2370 kvar.

The generator voltage and frequency shall be 6900 ± 690 volts and 60 ± 1.2 Hz within 10 seconds after the start signal; the steady state generator voltage and frequency shall be maintained within these limits during this test. Within 5 minutes after completing this 24 hour test, perform Specification 4.8.1.1.2.d.4.b.
- 8. Verifying that the auto-connected loads to each diesel generator do not exceed the continuous rating of 4400 kw.
- 9. Verifying the diesel generator's capability to:
 - a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.
 - b) Transfer its loads to the offsite power source, and
 - c) Be restored to its shutdown status.
- 10. Verifying that the automatic load sequence timers are OPERABLE with the setpoint for each sequence timer within ± 5 percent of its design setpoint.
- 11. Verifying that the following diesel generator lockout features prevent diesel generator starting only when required:
 - a) Engine overspeed
 - b) 86 GA lockout relay
- e. At least once per 10 years or after any modifications which could affect diesel generator interdependence by starting the diesel generators simultaneously and verifying that each diesel generator achieves in less than or equal to 10 seconds, 6900 ± 690 volts and 60 ± 1.2 Hz.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-77
AND AMENDMENT NO. 186 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 application dated December 16, 1994, and supplemented by letter dated January 19, 1995, the Tennessee Valley Authority (the licensee) proposed an amendment to the Technical Specifications (TS) for Sequoyah Nuclear Plant (SQN) Units 1 and 2. The requested changes would replace the surveillance requirement (SR) to accelerate the diesel to 900 rpm within 10 seconds with a similar requirement to accelerate the diesel generator to 60 ± 1.2 Hz within 10 seconds. It would also delete the "during shutdown" requirement associated with performance of the diesel generator 10-year interdependence surveillance test.

The supplemental letter supplied amplifying information that did not affect the original no significant hazards consideration determination.

2.0 EVALUATION

SR 4.8.1.1.2.a.4 requires that each diesel generator be started at least once per 184 days to verify acceleration to at least 900 rpm in less than or equal to 10 seconds. In addition, the SR requires verification that the generator voltage and frequency is 6900 ± 690 volts and 60 ± 1.2 Hz within 10 seconds after the start signal. The requested change would delete the requirement to verify that the diesel accelerates to at least 900 rpm. The SR would continue to require that the diesel generator test be conducted at least once per 184 days to verify that the diesel achieves generator voltage and frequency of 6900 ± 690 volts and 60 ± 1.2 Hz in less than or equal to 10 seconds.

SR 4.8.1.1.2.e requires that the diesel generators be started simultaneously during shutdown at least once per 10 years or after any modifications which could affect diesel generator interdependence, to verify that the diesel generators accelerate to at least 900 rpm in less than or equal to 10 seconds. The requested change would delete the requirement that the surveillance be performed during shutdown. The new SR 4.8.1.1.2.e would require that the diesel generators be started simultaneously at least once per 10 years or

after any modifications which could affect diesel generator interdependence to verify that each diesel generator achieves 6900 ± 690 volts and 60 ± 1.2 Hz in less than or equal to 10 seconds.

In justification of their request to remove/replace the 900 rpm requirement in SRs 4.8.1.1.2.a.4 and 4.8.1.1.2.e, the licensee documented by letter dated December 16, 1994, that the removal/replacement does not change the intent of the surveillance. The 60 ± 1.2 Hz frequency requirement is the same as the 900 rpm speed limit requirement. The frequency requirement satisfies the speed limit requirement to ensure that the diesel generator is ready to accept accident loads. Therefore, no relaxation of the technical specification requirement is realized by implementing the requested change. In addition, the requested change is consistent with the Standard Technical Specifications.

In justification of their request to delete "during shutdown" from SR 4.8.1.1.2.e, the licensee documented by letter dated December 16, 1994, that the deletion would not alter the intent of this surveillance. The deletion is consistent with the Standard Technical Specifications. With the exception that all diesel generators are started simultaneously, TVA further indicated, in supplemental information provided by letter dated January 19, 1995, and by discussions, that the surveillance (i.e., simultaneous start of all diesel generators during shutdown once per 10 years or after modifications), is the same as the surveillance which requires diesel generator start during normal plant operation every 30 days. TVA indicated that independence between the diesel generators and the offsite and onsite distribution systems is maintained during the 10-year test. The diesel generators are capable of responding, in accordance with design basis requirements, to a loss of offsite power signal and/or accident signal during the 10-year test. Failure of one or more diesel generators during the surveillance will not cause a design basis accident or plant condition which would necessitate the use of diesel generators. Therefore, the deletion of "during shutdown" does not alter the intent of the surveillance.

The staff concludes that the requested changes do not alter the requirements included in SRs 4.8.1.1.2.a.4 and 4.8.1.1.2.e. The requested changes are, therefore, acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes a surveillance requirement. The NRC staff has determined that the amendment involves 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (59 FR 67350). Accordingly, the amendment meets 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 or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: John L. Knox

Dated: February 9, 1995

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

SEQUOYAH NUCLEAR PLANT

cc:

Mr. O. J. Zeringue, Sr. Vice President
Nuclear Operations
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Dr. Mark O. Medford, Vice President
Engineering & Technical Services
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. D. E. Nunn, Vice President
New Plant Completion
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. P. P. Carier, Manager
Corporate Licensing
Tennessee Valley Authority
4G Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Ralph H. Shell
Site Licensing Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

TVA Representative
Tennessee Valley Authority
11921 Rockville Pike
Suite 402
Rockville, MD 20852

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW., Suite 2900
Atlanta, GA 30323

Mr. William E. Holland
Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, TN 37379

Mr. Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

County Judge
Hamilton County Courthouse
Chattanooga, TN 37402