

February 9, 1999

Mr. J. A. Scalice
Chief Nuclear Officer and
Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: ISSUANCE OF TECHNICAL SPECIFICATION AMENDMENTS FOR THE
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. MA4187 AND
MA4188)(TS 98-06)

Dear Mr. Scalice:

The Commission has issued the enclosed Amendment No. 242 to Facility Operating License No. DPR-77 and Amendment No. 232 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively. These amendments are in response to your application dated November 16, 1998. The amendments revise the SQN Technical Specifications for the emergency diesel generators by adding a note to Surveillance Requirement (SR) 4.8.1.1.2.d.10 and deleting SR 4.8.1.1.2.d.11. The U.S. Nuclear Regulatory Commission staff has found the proposed changes to be acceptable.

A copy of the Safety Evaluation is also enclosed. A Notice of Issuance will be included in the next Commission's biweekly Federal Register notice. Please direct any questions you or your staff should have to me at (301) 415-2010.

Sincerely,
Original signed by
Ronald W. Hernan, Senior Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Distribution (w/enclosure):

- Enclosures: 1. Amendment No. 242 to License No. DPR-77
- 2. Amendment No. 232 to License No. DPR-79
- 3. Safety Evaluation

- Docket Files W. Beckner
- PUBLIC G. Hill (4)
- SQN r/f T. Harris (TLH3 w/ SE)
- L. Plisco, RII J. Zwolinski (A)
- ACRS OGC
- J. Calvo

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cc w/enclosures: See next page
DOCUMENT NAME: AMDA4187.wpd

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| OFFICE | PDII-3/PM | E | PDII-3/LA | | EELB/BC | E | PDH-3/PD | W |
| NAME | RHernan <i>RWH</i> | | BClayton <i>BC</i> | | JCalvo <i>JC</i> | | CThomas | |
| DATE | 1/13/99 | | 1/13/99 | | 1/21/99 | | 2/9/99 | |

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Mr. J. A. Scalice
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SEQUOYAH NUCLEAR PLANT

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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. 242
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 November 16, 1998, 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. 242 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 no later than 45 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Cecil O. Thomas, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 9, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 242

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 8-5

INSERT

3/4 8-5

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- 8. Verifying that the auto-connected loads to each diesel generator do not exceed the continuous rating of 4400 kW. | R68
- 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. This surveillance is deleted.
- 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, ≥ 6800 volts and ≥ 58.8 Hz. | R238
- f. At least once per 10 years by: | R217
 - 1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and
 - 2. Performing a pressure test of those portions of the diesel fuel oil system design to Section III, subsection ND of the ASME Code at a test pressure equal to 110 percent of the system design pressure.
- g. At least once per 18 months by: | R238
 - 1. Verifying the generator capability to reject a load of greater than or equal to 600 kw while maintaining voltage at within ± 10 percent of the initial pretest voltage and frequency at 60 ± 1.2 Hz. At no time shall the transient voltage exceed 8276V. | R103
 - 2. Verifying the generator capability to reject a load of 4400 kw without tripping. The generator voltage shall not exceed 8880V during and following the load rejection. | R68 | R174

#May be performed in Modes 1, 2, 3 & 4 if the associated equipment is out of service for maintenance or testing.



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. ~~232~~
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 November 16, 1998, 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. 232 , 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 no later than 45 days after issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Cecil O. Thomas, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: February 9, 1999

ATTACHMENT TO LICENSE AMENDMENT NO. 232

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 8-5

INSERT

3/4 8-5

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- | | | |
|-----|---|-------------|
| 8. | Verifying that the auto-connected loads to each diesel generator do not exceed the continuous rating of 4400 kw. | R56 |
| 9. | Verifying the diesel generator's capability to: | R41 |
| | 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.# | R41 |
| 11. | This surveillance is deleted. | |
| 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, ≥ 6800 volts and ≥ 58.8 Hz. | R224 |
| f. | At least once per 10 years by: | R203 |
| | 1. Draining each fuel oil storage tank, removing the accumulated sediment and cleaning the tank using a sodium hypochlorite solution, and | |
| | 2. Performing a pressure test of those portions of the diesel fuel oil system designed to Section III, subsection ND of the ASME Code at a test pressure equal to 110 percent of the system design pressure. | |
| g. | At least once per 18 months by: | R224 |
| | 1. Verifying the generator capability to reject a load of greater than or equal to 600 kw while maintaining voltage at within ± 10 percent of the initial pretest voltage and frequency at 60 ± 1.2 Hz. At no time shall the transient voltage exceed 8276V. | R88 |
| | 2. Verifying the generator capability to reject a load of 4400 kw without tripping. The generator voltage shall not exceed 8880V during and following the load rejection. | R56 R160 |

#May be performed in Modes 1, 2, 3 & 4 if the associated equipment is out of service for maintenance or testing.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 242 TO FACILITY OPERATING LICENSE NO.
DPR-77 AND AMENDMENT NO. 232 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

The Tennessee Valley Authority (TVA, the licensee) requested amendments to Operating Licenses DPR-77 and DPR-79 for Sequoyah Nuclear Plant (SQN), Units 1 and 2, respectively, in a letter dated November 16, 1998. The amendments would revise the SQN Units 1 and 2 Technical Specifications (TSs) for the emergency diesel generators (EDGs) by adding a note to Surveillance Requirement (SRs) 4.8.1.1.2.d.10 and deleting SR 4.8.1.1.2.d.11. Specifically, the change would (1) allow performance of SR 4.8.1.1.2.d.10 to be performed in Modes 1, 2, 3 or 4, if the associated components are already out-of-service for testing or maintenance, and (2) remove the SR (4.8.1.1.2.d.11) that verifies certain lockout features that prevent EDG from starting.

2.0 BACKGROUND

TVA proposes to allow the surveillance testing that verifies that the automatic load sequencer timers are within ± 5 percent of their design setpoints to be performed at any operational mode if coupled with existing testing or maintenance. This change allows testing, currently required to be performed during plant outages, to be moved to periods with lighter, less complex maintenance schedules and therefore make more efficient use of existing limiting condition for operation (LCO) allowed outage time.

The change to delete SR 4.8.1.1.2.d.11 from TSs is consistent with NUREG-1431, "Standard Technical Specifications for Westinghouse Plants." This proposal would remove items that are inconsistent with NUREG-1431 content in order to simplify TSs.

3.0 EVALUATION

SR 4.8.1.1.2.d.10 - Add a note that allows the SR to be performed in Modes 1, 2, 3 or 4, if the associated equipment is out-of-service for maintenance or testing.

The EDGs serve as the plant emergency standby alternating current power source. They are designed, installed, and tested to requirements necessary to assure their availability. The EDGs consist of four self-contained, water-cooled, automatic-starting, diesel engine driven, and

stationary electric generators. Two EDGs in the same train are required to mitigate a design basis event in one unit; redundancy for single failure is provided by maintaining four EDGs in ready condition for automatic start. The EDGs are designed for automatic connection to the 6.9-kV shutdown boards with automatic load sequencer timers adding large loads to the boards in the appropriate sequence so that the EDGs do not overload during the process.

Calibration of the time delay relays associated with automatic load sequence timers may defeat certain functions in the downstream equipment energized by the timer. This may require entry into LCOs associated with the function. However, the time required to perform the calibration is typically a small fraction of the LCO period. Maintenance and testing functions typically require periodic entry into these same LCOs. Coupling the calibrations with existing maintenance or testing LCO allowed outage time does not increase the unavailability of the equipment. It does allow the calibrations to be done at a time when the maintenance schedule is less complex and less hurried, inherently reducing the potential for human error and more efficient use of LCO allowed outage time. This is consistent with NRC Generic Letter 91-04, which states, "The Staff concludes that the TS need not restrict surveillances as only being performed during shutdown. Nevertheless, safety dictates that when refueling interval surveillances are being performed during power operation licensees give proper regard for their effect on safe operation of the plant." Standard TSs recognize this issue and allow plant-specific removal of mode restrictions based on meeting three criteria that performance of the SR will not:

Render any safety system or component inoperable. This criteria is met by doing the work coupled with existing out-of-service conditions.

Cause perturbations to any of the electrical distribution systems that could result in a challenge to steady state operation or to plant safety systems. Calibration of the time delay relays, associated with the load sequence timers, only affects downstream equipment, which will already be out-of-service for testing or maintenance activities. Therefore, there will be no challenge to steady state operation or to plant safety systems.

Cause or result in an anticipated operational occurrence with attendant challenge to plant safety systems. The work will be coupled with existing out-of-service conditions so it will not cause or result in an anticipated operational occurrence.

The EDGs have various protective devices installed to shut down an EDG automatically to prevent heavy damage in the event of a system malfunction. As described in Final Safety Analysis Report (FSAR) Section 8.3.1.1, these devices are operative only during the exercise mode of operation, with the exception of the generator differential relay and the engine overspeed switch.

Removal of the requirement for verifying certain EDG lockout features that prevent EDG starting only when required is consistent with standard TSs (NUREG-1431). The surveillances implementing this SR verify that the EDG will not start if one or more of the emergency trips are active. This SR verifies an equipment protection function. The function is nonsafety related.

Therefore, it does not meet the test for inclusion in TSs in accordance with 10 CFR 50.36 criteria. The equipment affected is not:

Used to detect or indicate a significant abnormal degradation of the reactor coolant system boundary.

A process variable, design feature or operating restriction that is an initial condition to a design basis accident (DBA).

A structure, system or component that is part of the primary success path and which functions or actuates to mitigate a DBA.

A structure, system or component, which operating experience or probabilistic safety assessment has shown to be significant to the public health and safety.

This SR was removed from TSs in the development of the Standard TSs (NUREG-1431). It was removed because the function was only for equipment protection and the requirement was not contained in the TSs of other recently licensed plants at that time. The functions will remain as described in FSAR Section 8.3.1.1. For the reasons discussed above, the U.S. Nuclear Regulatory Commission (NRC) staff finds the proposed changes to be acceptable.

4.0 STATE CONSULTATION

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

5.0 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 surveillance requirements. 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 (63 FR 66603, dated December 2, 1998). 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 or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 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: Ronald W. Hernan

Dated: February 9, 1999