



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

LICENSE NO. DPR-77

AMENDMENT NO. 1

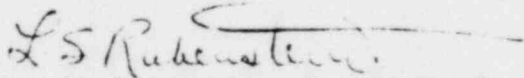
1. The Nuclear Regulatory Commission (the Commission) having found that:
  - A. The application for amendment to the Sequoyah Nuclear Plant, Unit 1 (the facility) license, DPR-77, filed by the Tennessee Valley Authority (licensee), dated March 28, 1980, complies with the standards and requirements of 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 revised pages 3/4 7-5, 3/4 7-6, 3/4 8-7, 3/4 10-5, 3/4 6-36, 3/4 6-37, 6-21, and 3/4 1-10.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 1, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications.

F. This amended license is effective as of the date of issuance.

For the Nuclear Regulatory Commission



L. S. Rubenstein, Acting Chief  
Light Water Reactors, Branch No. 4  
Division of Project Management

Date of Issuance: April 22, 1980

Enclosure:  
Appendix A Technical  
Specification changes

ATTACHMENT TO LICENSE AMENDMENT NO. 1

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages as indicated. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Pages

3/4 1-10  
3/4 6-36  
3/4 6-37  
3/4 7-5  
3/4 7-6  
3/4 8-7  
3/4 10-5  
6-21

## REACTIVITY CONTROL SYSTEMS

### CHARGING PUMP - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

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3.1.2.3 One charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE shutdown board.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With no charging pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

#### SURVEILLANCE REQUIREMENTS

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4.1.2.3 The above required charging pump shall be demonstrated OPERABLE by verifying, that on recirculation flow, the pump develops a discharge pressure of greater than or equal to 2400 psig when tested pursuant to Specification 4.0.5.

## REACTIVITY CONTROL SYSTEMS

### CHARGING PUMPS - OPERATING

#### LIMITING CONDITION FOR OPERATION

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3.1.2.4 At least two charging pumps shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1% delta k/k at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.1.2.4 At least two charging pumps shall be demonstrated OPERABLE by verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 2400 psig when tested pursuant to Specification 4.0.5.

## CONTAINMENT SYSTEMS

### REFUELING CANAL DRAINS

#### LIMITING CONDITION FOR OPERATION

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3.6.5.8 The refueling canal drains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With a refueling canal drain inoperable, restore the drain to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in at least COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.5.8 Each refueling canal drain shall be demonstrated OPERABLE:

- a. Prior to increasing the Reactor Coolant System temperature above 200°F after each partial or complete filling of the canal with water by verifying that the blind flange is removed from the drain line and that the drain is not obstructed by debris, and
- b. At least once per 92 days by verifying, through a visual inspection, that the blind flange is removed and there is no debris that could obstruct the drain.

## CONTAINMENT SYSTEMS

### DIVIDER BARRIER SEAL

#### LIMITING CONDITION FOR OPERATION

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3.6.5.9 The divider barrier seal shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the divider barrier seal inoperable, restore the seal to OPERABLE status prior to increasing the Reactor Coolant System temperature above 200°F.

#### SURVEILLANCE REQUIREMENTS

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4.6.5.9 The divider barrier seal shall be determined OPERABLE at least once per .8 months during shutdown by:

- a. Removing and pressure testing the divider barrier seal test coupons in accordance with Table 3.6-3,
- b. Visually inspecting at least 95 percent of the seal's entire length and:
  1. Verifying that the seal and seal mounting bolts are properly installed, and
  2. Verifying that the seal material shows no visual evidence of deterioration due to holes, ruptures, chemical attack, abrasion, radiation damage, or changes in physical appearances.

TABLE 3.6-3

DIVIDER BARRIER SEAL  
ACCEPTABLE PHYSICAL PROPERTIES

<u>Material</u>	<u>Differential Pressure</u>	<u>Elongation</u>
Presray Corp. EPDM Compound E603 (2 ply Dacron Coated EPDM)	15 psid after LOCA environment simulation*	NA

\*The test sequence will be as follows: 2 coupons will be tested to 60 psid; with no failures, the results are acceptable. If a failure occurs at 60 psig, 4 coupons will be tested to 30 psid; with no failures, the results are acceptable. If a failure occurs at 30 psid, 5 coupons will be sent to the manufacture for LOCA environment simulation (radiation, humidity, temperature) and testing to 15 psid.



## CONTAINMENT SYSTEMS

### 3/4.6.6 VACUUM RELIEF VALVES

#### LIMITING CONDITION FOR OPERATION

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3.6.6.1 The primary containment vacuum relief valves shall be OPERABLE with an actuation set point of less than or equal to 0.1 PSID.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one primary containment vacuum relief valve inoperable, restore the valve to OPERABLE status within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.6.6.1 No additional Surveillance Requirements other than those required by Specification 4.0.5.

## PLANT SYSTEMS

### AUXILIARY FEEDWATER SYSTEM

#### LIMITING CONDITION FOR OPERATION

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3.7.1.2 At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with:

- a. Two feedwater pumps, each capable of being powered from separate shutdown boards, and
- b. One feedwater pump capable of being powered from an OPERABLE steam supply system.

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

With one auxiliary feedwater pump inoperable, restore at least three auxiliary feedwater pumps (two capable of being powered from separate shutdown boards and one capable of being powered by an OPERABLE steam supply system) to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
  1. Verifying that each motor driven pump develops a differential pressure of greater than or equal to 1397 psid on recirculation flow.
  2. Verifying that the steam turbine driven pump develops a differential pressure of greater than or equal to 1183 psid on recirculation flow when the secondary steam supply pressure is greater than 842 psig. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
  3. Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position, and
  4. Verifying that each automatic control valve in the flow path is OPERABLE whenever the auxiliary feedwater system is placed in automatic control or when above 10% of RATED THERMAL POWER.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- b. At least once per 18 months during shutdown by:
1. Verifying that each automatic valve in the flow path actuates to its correct position upon receipt of each auxiliary feedwater actuation test signal.
  2. Verifying that each auxiliary feedwater pump starts as designed automatically upon receipt of each auxiliary feedwater actuation test signal.

ELECTRICAL POWER SYSTEMS

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE

<u>Number of Failures in Last 100 Valid Tests*</u>	<u>Test Frequency</u>
≤ 1	At least once per 31 days
2	At least once per 14 days
3	At least once per 7 days
≥ 4	At least once per 3 days

\*Criteria for determining number of failures and number of valid tests shall be in accordance with Regulatory Position C.2.e of Regulatory Guide 1.108, Revision 1, August 1977, where the last 100 tests are determined on a per nuclear unit basis. For the purposes of this test schedule, only valid tests conducted after the Operating License issuance date shall be included in the computation of the "last 100 valid tests". Entry into this test schedule shall be made at the 31 day test frequency.

## ELECTRICAL POWER SYSTEMS

### SHUTDOWN

### LIMITING CONDITION FOR OPERATION

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3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Diesel generator sets 1A-A and 2A-A or 1B-B and 2B-B each with:
  1. Two diesels driving a common generator,
  2. Two engine-mounted fuel tanks containing a minimum volume of 250 gallons of fuel per tank,
  3. A fuel storage system containing a minimum volume of 62,000 gallons of fuel,
  4. A fuel transfer pump, and
  5. A separate 125-volt D.C. distribution panel, 125-volt D.C. battery bank and associated charger.

APPLICABILITY: MODES 5 and 6.

#### ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

### SURVEILLANCE REQUIREMENTS

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4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 (except for requirement 4.8.1.1.2.a.5), 4.8.1.1.3, and 4.8.1.1.4.

## SPECIAL TEST EXCEPTIONS

### 3/4.10.5 POSITION INDICATION SYSTEM - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

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3.10.5 The limitations of Specification 3.1.3.3 may be suspended during the performance of individual full length (shutdown and control) rod drop time measurements provided;

- a. Only one shutdown or control bank is withdrawn from the fully inserted position at a time, and
- b. The rod position indicator is OPERABLE during the withdrawal of the rods.\*

APPLICABILITY: MODES 3, 4 and 5 during performance of rod drop time measurements.

#### ACTION:

With the position indication system inoperable, or more than one bank of rods withdrawn, immediately open the reactor trip breakers.

#### SURVEILLANCE REQUIREMENTS

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4.10.5 The above required rod position indication systems shall be determined to be OPERABLE within 24 hours prior to the start of and at least once per 24 hours thereafter during rod drop time measurements by verifying the demand position indication system and the rod position indication systems agree:

- a. Within 12 steps when the rods are stationary, and
- b. Within 24 steps during rod motion.

\* This requirement is not applicable during the initial calibration of the rod position indication system provided (1)  $K_{eff}$  is maintained less than or equal to 0.95, and (2) only one shutdown or control rod bank is withdrawn from the fully inserted position at one time.

## ADMINISTRATIVE CONTROLS

- h. Errors discovered in the transient or accident analyses or in the methods used for such analyses as described in the safety analysis report or in the bases for the technical specifications that have or could have permitted reactor operation in a manner less conservative than assumed in the analyses.
- i. Performance of structures, systems, or components that requires remedial action or corrective measures to prevent operation in a manner less conservative than assumed in the accident analyses in the safety analysis report or technical specifications bases; or discovery during unit life of conditions not specifically considered in the safety analysis report or technical specifications that require remedial action or corrective measures to prevent the existence or development of an unsafe condition.
- j. Offsite releases of radioactive materials in liquid and gaseous effluents which exceed the limits of Specification 3.11.1.1 or 3.11.2.1.
- k. Exceeding the limits in Specification 3.11.1.4 or 3.11.2.6 for the storage of radioactive materials in the listed tanks. The written follow-up report shall include a schedule and a description of activities planned and/or taken to reduce the contents to within the specified limits.

## THIRTY DAY WRITTEN REPORTS

6.9.1.13 The types of events listed below shall be the subject of written reports to the Director of the Regional Office within thirty days of occurrence of the event. The written report shall include, as a minimum, a completed copy of a licensee event report form. Information provided on the licensee event report form shall be supplemented, as needed, by additional narrative material to provide complete explanation of the circumstances surrounding the event.

- a. Reactor protection system or engineered safety feature instrument settings which are found to be less conservative than those established by the technical specifications but which do not prevent the fulfillment of the functional requirements of affected systems.
- b. Conditions leading to operation in a degraded mode permitted by a limiting condition for operation or plant shutdown required by a limiting condition for operation.
- c. Observed inadequacies in the implementation of administrative or procedural controls which threaten to cause reduction of degree of redundancy provided in reactor protection systems or engineered safety feature systems.
- d. Abnormal degradation of systems other than those specified in 6.9.1.12.c above designed to contain radioactive material resulting from the fission process.

## ADMINISTRATIVE CONTROLS

- e. An unplanned offsite release of 1) more than 1 curie of radioactive material in liquid effluent, 2) more than 150 curies of noble gas in gaseous effluents, or 3) more than 0.05 curies of radioiodine in gaseous effluents. A report of an unplanned offsite release of radioactive material shall include the following information:
  - 1. A description of the event and equipment involved.
  - 2. Cause(s) for the unplanned release.
  - 3. Actions taken to prevent recurrence.
  - 4. Consequences of the unplanned release.
- f. Measured levels of radioactivity in an environmental sampling medium determined to exceed the reporting level values of Table 3.12-2 when averaged over any calendar quarter sampling period.

### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Director of the Office of Inspection and Enforcement Regional Office within the time period specified for each report.

### 6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

- 6.10.1 The following records shall be retained for at least five years:
- a. Records and logs of unit operation covering time interval at each power level.
  - b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
  - c. All REPORTABLE OCCURRENCES submitted to the Commission.
  - d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
  - e. Records of changes made to the procedures required by Specification 6.8.1 and 6.8.4.