



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

January 29, 1991

Docket No. 50-328

Mr. Oliver D. Kingsley, Jr.  
Senior Vice President, Nuclear Power  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: DECOUPLE THIRD TYPE A TEST FROM 10-YEAR ISI (TAC NO. 77578)  
(TS 90-11) - SEQUOYAH NUCLEAR PLANT, UNIT 2

The Commission has issued the enclosed Amendment No. 139 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Unit 2. This amendment is in response to your application dated August 31, 1990.

This amendment revises the surveillance requirements (SR) on the containment integrated leak rate test (ILRT), or Appendix J Type A test, in Section 3/4.6.1, Primary Containment, of the Sequoyah Nuclear Plant, Unit 2, Technical Specifications (TSs). The revision to SR 4.6.1.2.a deletes the requirement that the third ILRT of each 10-year period must be conducted during the shutdown for the 10-year unit inservice inspection. This will allow the third ILRT at Unit 2 to be conducted in the Unit 2 Cycle 5 refueling outage and the 10-year unit inservice inspection to be conducted in the Unit 2 Cycle 6 refueling outage. In addition, the TS Bases for this SR were revised.

The previous requirement in the TSs on the third ILRT at Unit 2 also exists in Appendix J of 10 CFR Part 50 and your application dated August 31, 1990 also requested an exemption to Appendix J. The Exemption to Appendix J to allow the above revisions to the TSs was granted in the staff's letter dated January 29, 1991.

This revision to the Unit 1 TSs and an exemption for Unit 1 were issued by the staff in two letters dated September 29, 1989.

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January 29, 1991

Mr. Oliver D. Kingsley, Jr.

-2-

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

Sincerely,

Jack N. Donohew, Project Manager  
Project Directorate II-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

- 1 Amendment No. 139 to License No. DPR-79
- 2. Safety Evaluation

cc w/enclosures:  
See next page

*revisions done Jack 1/15/90*

PDII-4/80  
SBlack  
1/17/90

OFC	: PDII-4/LA	: PDII-4/PM	: SPLB/BC	: OGC	: PDII-4/D
NAME	: MKrebs <i>mk</i>	: JDonohew:as	: C McCracken	: M Young	: FHebbon
DATE	: 12/19/90	: 12/19/90	: 12/27/90	: 1/7/90	: 1/17/90

AMENDMENT NO. 139 FOR SEQUOYAH UNIT NO. 2 - DOCKET NO. 50-328  
DATED: January 29, 1991

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

TENNESSEE VALLEY AUTHORITY  
DOCKET NO. 50-328  
SEQUOYAH NUCLEAR PLANT, UNIT 2  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 139  
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 August 31, 1990, 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.

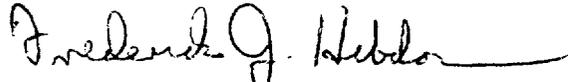
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.139, 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.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Heddon, 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: January 29, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 139

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 6-3

B3/4 6-1

INSERT

3/4 6-3

B3/4 6-1

## CONTAINMENT SYSTEMS

### SURVEILLANCE REQUIREMENTS

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4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4-1972; however, the methods of ANSI/ANS 56.8-1987 for mass point data analysis may be used in lieu of the methods specified in ANSI N45.4-1972.

- a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at  $40 \pm 10$ -month intervals during shutdown at  $P_a$ , 12 psig, during each 10-year service period.
- b. If any periodic Type A test fails to meet  $0.75 L_a$  the test schedule for subsequent Type A tests shall be reviewed and approved by the Commission. If two consecutive Type A tests fail to meet  $0.75 L_a$ , a Type A test shall be performed at least every 18 months until two consecutive Type A tests meet  $0.75 L_a$  at which time the above test schedule may be resumed.\*
- c. The accuracy of each Type A test shall be verified by a supplemental test which:
  1. Confirms the accuracy of the Type A test by verifying that the difference between supplemental and Type A test data is within  $0.25 L_a$ .
  2. Has a duration sufficient to establish accurately the change in leakage rate between the Type A test and the supplemental test.
  3. Requires the quantity of gas injected into the containment or bled from the containment during the supplemental test to be equivalent to at least 25 percent of the total measured leakage at  $P_a$ , 12 psig.
- d. Type B and C tests shall be conducted with gas at  $P_a$ , 12 psig, at intervals no greater than 24 months except for tests involving:
  1. Air locks,
  2. Penetrations using continuous leakage monitoring systems, and
  3. Values pressurized with fluid from a seal system.

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\*An exemption from the 18-month accelerated frequency requirement is allowed for the Type A test failures conducted during the Unit 2 Cycle 2 and Unit 2 Cycle 3 refueling outages.

## 3/4.6 CONTAINMENT SYSTEMS

### BASES

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#### 3/4.6.1 PRIMARY CONTAINMENT

#### 3/4.6.1 PRIMARY CONTAINMENT

Primary CONTAINMENT INTEGRITY ensures that the release of radioactive materials from the containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with the leakage rate limitation, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

#### 3/4.6.1.2 CONTAINMENT LEAKAGE

The limitations on containment leakage rates ensure that the total containment leakage volume will not exceed the value assumed in the accident analyses at the peak accident pressure,  $P_a$ . As an added conservatism, the measured overall integrated leakage rate is further limited to less than or equal to  $0.75 L_a$  during performance of the periodic tests to account for possible degradation of the containment leakage barriers between leakage tests.

The surveillance testing for measuring leakage rates are consistent with the requirements of Appendix "J" of 10 CFR 50 with the following exemption: the third Type A test of each 10-year inservice interval need not be conducted when the plant is shut down for the 10-year plant inservice inspection. Due to the increased accuracy of the mass point method for containment integrated leakage testing, the mass point method referenced in ANSI/ANS 56.8-1987 can be used in lieu of the methods described in ANSI N45.4-1972.

#### 3/4.6.1.3 CONTAINMENT AIR LOCKS

The limitations on closure and leak rate for the containment air locks are required to meet the restrictions on CONTAINMENT INTEGRITY and containment leak rate. Surveillance testing of the air lock seals provide assurance that the overall air lock leakage will not become excessive due to seal damage during the intervals between air lock leakage tests.

#### 3/4.6.1.4 INTERNAL PRESSURE

The limitations on containment internal pressure ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the annulus atmosphere of 0.5 psig and 2) the



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ENCLOSURE 2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 139 TO FACILITY OPERATING LICENSE NO. DPR-79

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-328

1.0 INTRODUCTION

By letter dated August 31, 1990, the Tennessee Valley Authority (TVA) proposed a change to Section 3/4.6.1, Primary Containment, of the Sequoyah Unit 2 Technical Specifications (TSs). This change would revise the Surveillance Requirement (SR) 4.6.1.2.a on the containment integrated leak rate test (ILRT), or Appendix J Type A, test. This change would delete the requirement that the third ILRT of each 10-year period must be conducted during the 10-year unit inservice inspection. This would allow the third ILRT for Unit 2 to be conducted in the Unit 2 Cycle 5 refueling outage and the 10-year unit inservice inspection to be conducted in the Unit 2 Cycle 6 refueling outage. In addition, the TS Bases for this SR would be revised to add the statement that the third ILRT of each 10-year period does not have to be conducted during the unit shutdown for the 10-year inservice inspection. This is TVA TS Change Request 90-11.

This proposed change to the Unit 1 TSs was issued in the staff's letter dated September 29, 1989. The TVA application for the change to the Unit 1 TSs is dated May 5, 1989.

2.0 EVALUATION

Appendix J requires that a set of three Type A tests be performed during each 10-year service period with the third test being conducted when the plant is shut down for the 10-year plant inservice inspection. The proposed TS change would eliminate the requirement of conducting the third Type A test of a 10-year service period during the shutdown for the 10-year unit inservice inspection.

The purpose for requiring the third Type A test during shutdown for the 10-year plant inservice inspection is to assure that the three Type A tests are not bunched together during the first 90 months of the 10-year operation cycle. Requiring the third Type A test during the 10-year plant inservice inspection assures that the three Type A tests are evenly spaced over the 10-year interval.

TVA stated that the third Type A test of the first 10-year service period for Unit 2 is presently scheduled to commence toward the end of the Unit 2 Cycle 5

refueling outage (i.e., May, 1992). It intends to conduct the Unit 2 10-year inservice inspection during the Unit 2 Cycle 6 refueling outage (i.e., October-November, 1993).

Unit 2 was shut down from August 1985 to May 1988. The extension of the 10-year plant inservice inspection is required because the extended 33-month shutdown outage for Unit 2 in 1985 to 1988 necessitates this extension in order for the plant to accumulate sufficient operating time to conduct the 10-year plant inservice inspection. In accordance with the provisions of the American Society of Mechanical Engineers (ASME) Code Section XI, Article IWA-2400(c), TVA extended the Unit 2 10-year plant inservice inspection until the Unit 2 Cycle 6 refueling outage. ASME Code Section XI, Article IWA-2499(c) allows the 10-year plant inservice inspection to be postponed if the time the plant has operated is significantly less than the 10-year inspection cycle.

Additionally, not extending the inservice inspection would impose hardship on the licensee with little or no increase in the level of quality or safety at Unit 2. This inspection is not related to containment integrity requirements of Appendix J. The purpose of the Appendix J test program is to ensure that leakage through the primary reactor containment and systems and the components penetrating primary containment does not exceed allowable leakage rate values. The purpose of the ASME Code Section XI inservice inspection program is to ensure that structural integrity of Class 1, 2, and 3 components is maintained in accordance with ASME Code requirements. Therefore, the proposed separation has no safety consequences because the requirements on containment integrity in Appendix J and the TSs, and on structural integrity of Class 1, 2, and 3 components in the ASME Code are not being changed by the proposed change to SR 4.6.1.2.a.

Since the 10-year unit inservice inspection will be conducted at Sequoyah in the twelfth year after initial plant startup, the third Type A test will be uncoupled from the unit inservice inspection in order for the three Type A tests over the 10-year service period to be evenly spaced. By uncoupling the third Type A test from the 10-year unit inservice inspection, the third Type A test will continue to be conducted at the end of the 10-year service period in accordance with the requirements of Appendix J and the 10-year unit inservice inspection will continue to be conducted in accordance with the ASME Code.

Based on the above, the staff concludes that the proposed changes in TVA's application dated August 31, 1990 are acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes to the surveillance requirements. The 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 this amendment involves no significant hazards

consideration and there has been no public comment on such finding. 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 nor environmental assessment need be prepared in connection with the issuance of this amendment.

#### 4.0 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (55 FR 42101) on October 17, 1990 and consulted with the State of Tennessee. No public comments were received and the State of Tennessee did not have any comments.

The staff 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 amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: J. Donohew

Dated: January 29, 1991