

December 17, 1990

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: DELETION OF TECHNICAL SPECIFICATION TABLE 4.4-5 (TAC NO. 77528)  
(TS 90-17) - SEQUOYAH NUCLEAR PLANT, UNIT 2

The Commission has issued the enclosed Amendment No. 138 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Unit 2. This amendment is in response to your application dated August 27, 1990.

This amendment revises the surveillance requirements (SR) on pressure/temperature limits in the Sequoyah Unit 2 Technical Specifications (TSs). The changes delete (1) Table 4.4-5, "Reactor Vessel Material Surveillance Program Withdrawal Schedule," and (2) references to Table 4.4-5 in SR 4.4.9.1.2. Table 4.4-5 was redundant to the requirements given in Appendix H, "Reactor Vessel Material Surveillance Program Requirements," of 10 CFR Part 50. The same changes to the Sequoyah Unit 1 TSs were issued as Amendment 87 for Unit 1 in the staff's letter dated October 14, 1988.

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.138 to License No. DPR-79
- 2. Safety Evaluation

cc w/enclosures:  
See next page

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AMENDMENT NO. 138 FOR SEQUOYAH UNIT NO. 2 - DOCKET NO. 50-328  
DATED: December 17, 1990

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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. 138  
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 27, 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.

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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-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. 138, 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. 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: December 17, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 138

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. Overleaf pages\* are provided to maintain document completeness.

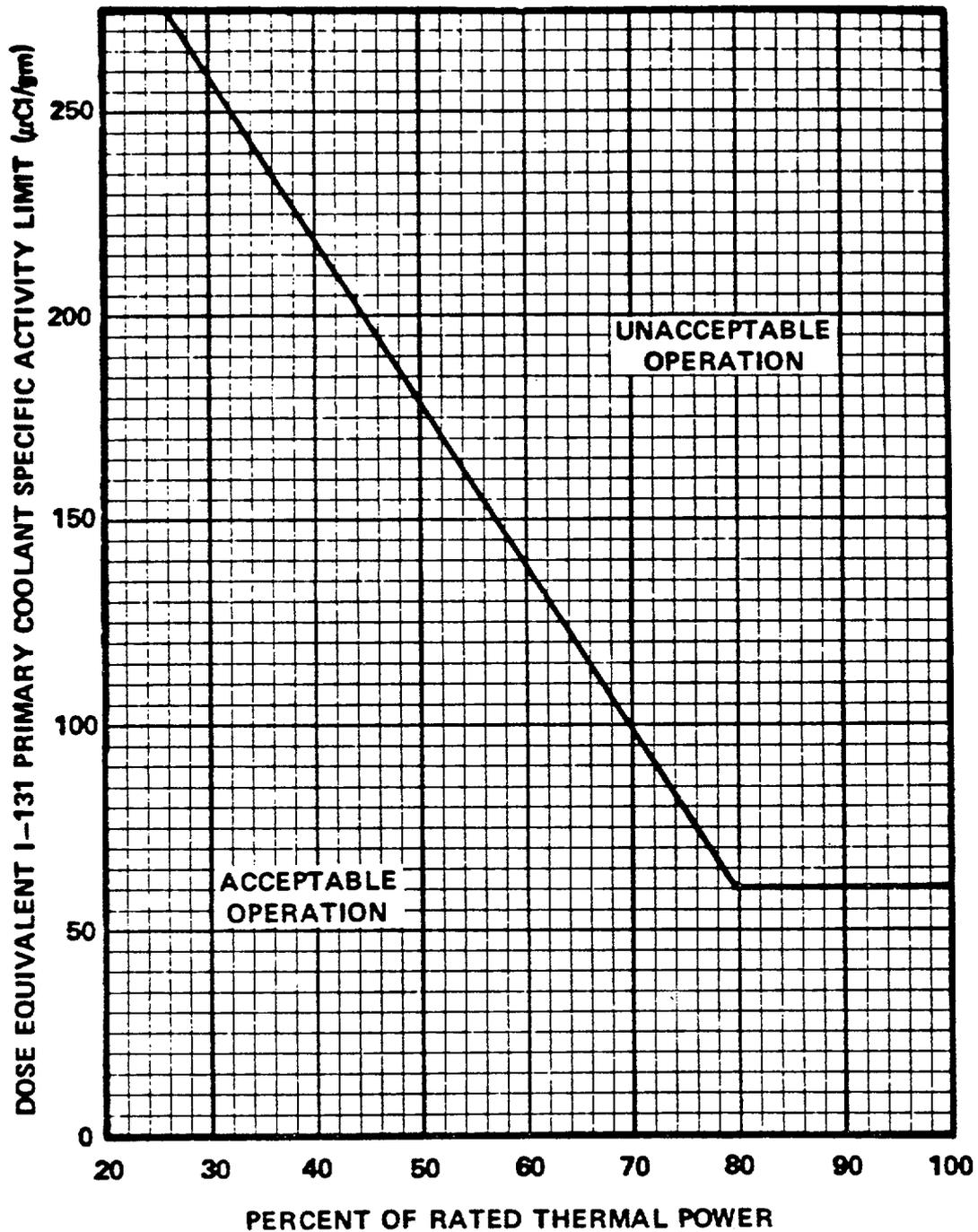
<u>REMOVE</u>	<u>INSERT</u>
VI	VI
3/4 4-27	3/4 4-27*
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**FIGURE 3.4-1**

**DOSE EQUIVALENT I-131 Primary Coolant Specific Activity Limit Versus Percent of RATED THERMAL POWER with the Primary Coolant Specific Activity  $> 1.0 \mu\text{Ci}/\text{gram}$  Dose Equivalent I-131**

## REACTOR COOLANT SYSTEM

### 3/4.4.9 PRESSURE/TEMPERATURE LIMITS

#### LIMITING CONDITION FOR OPERATION

---

3.4.9.1 The Reactor Coolant System (except the pressurizer) temperature and pressure shall be limited in accordance with the limit lines shown on Figures 3.4-2 and 3.4-3 during heatup, cooldown, criticality, and inservice leak and hydrostatic testing with:

- a. A maximum heatup of 100°F in any one hour period.
- b. A maximum cooldown of 100°F in any one hour period.
- c. A maximum temperature change of less than or equal to 5°F in any one hour period during inservice hydrostatic and leak testing operations above the heatup and cooldown limit curves.

APPLICABILITY: At all times.

#### ACTION:

With any of the above limits exceeded, restore the temperature and/or pressure to within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the RCS  $T_{avg}$  and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.9.1.1 The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and hydrostatic testing operations.

4.4.9.1.2 The reactor vessel material irradiation surveillance specimens shall be removed and examined, to determine changes in material properties in accordance with 10 CFR 50, Appendix H. The results of these examinations shall be used to update Figures 3.4-2 and 3.4-3.

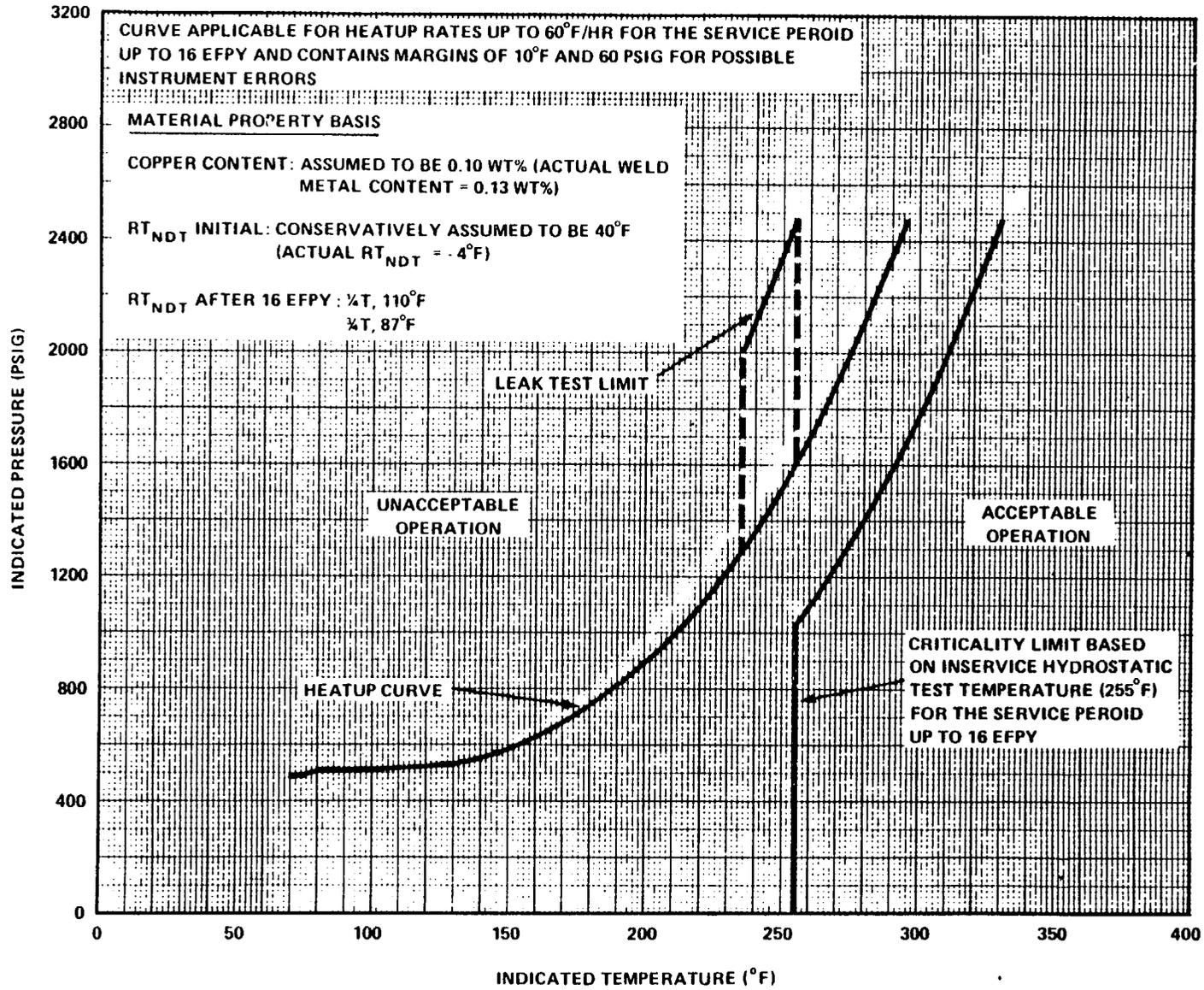


Figure 3.4-2 Sequoyah Unit 2 Reactor Coolant System Heatup Limitations  
Applicable up to 16 EPY

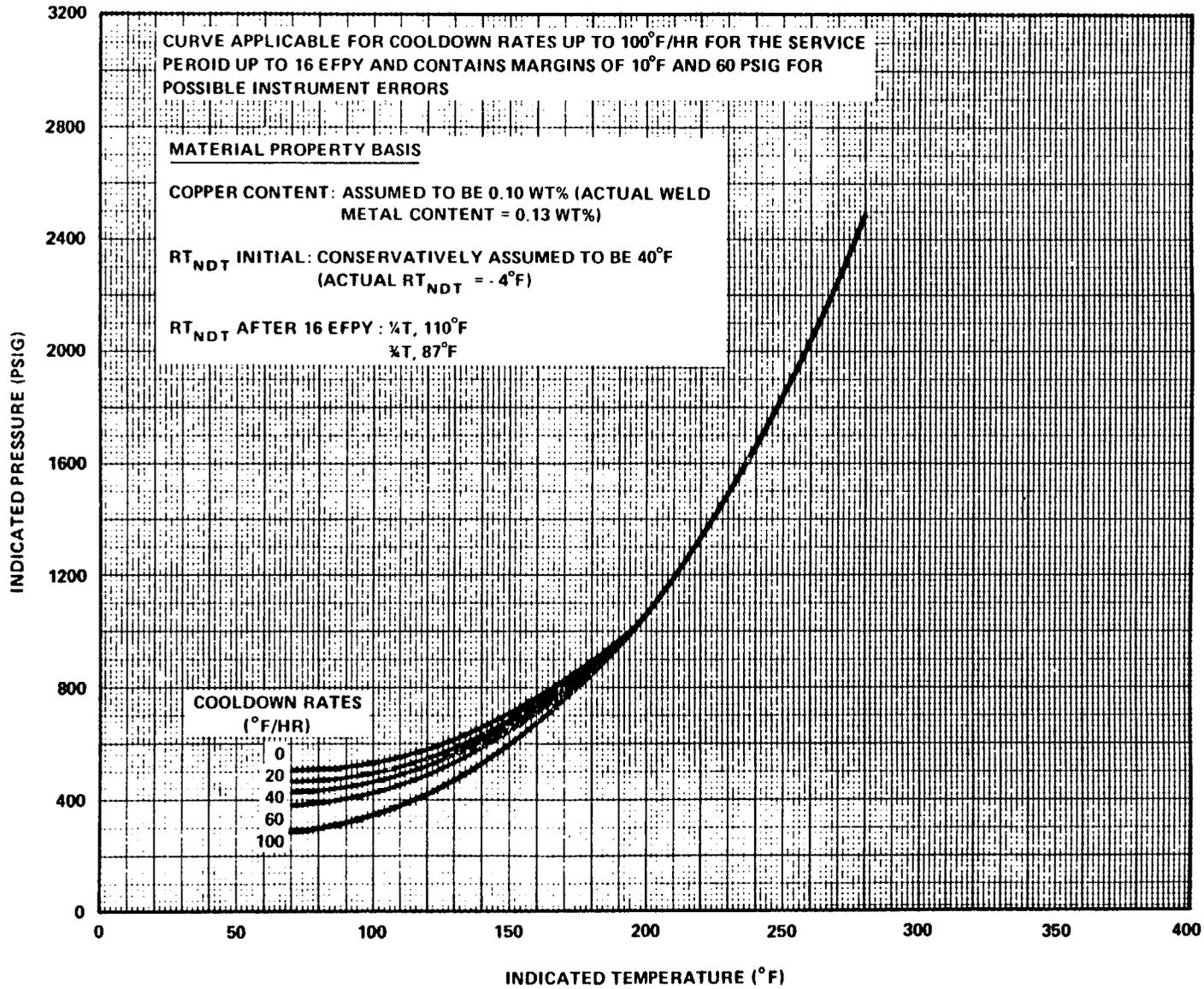


Figure 3.4-3 Sequoyah Unit 2 Reactor Coolant System Cooldown Limitations  
Applicable up to 16 EFPY

## REACTOR COOLANT SYSTEM

### PRESSURIZER

#### LIMITING CONDITION FOR OPERATION

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3.4.9.2 The pressurizer temperature shall be limited to:

- a. A maximum heatup of 100°F in any one hour period,
- b. A maximum cooldown of 200°F in any one hour period, and
- c. A maximum spray water temperature differential of 560°F.

APPLICABILITY: At all times.

#### ACTION:

With the pressurizer temperature limits in excess of any of the above limits, restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.9.2.1 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown.

4.4.9.2.2 Any occurrence of spray operation with a differential temperature greater than 320°F shall be recorded for evaluation of the cyclic limits in Table 5.7.1.

## REACTOR COOLANT SYSTEM

### 3/4.4.10 STRUCTURAL INTEGRITY

#### ASME CODE CLASS 1, 2 and 3 COMPONENTS

#### LIMITING CONDITION FOR OPERATION

---

3.4.10 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.10.

APPLICABILITY: All MODES

ACTION:

- a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.
- b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.
- c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.
- d. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.4.10 In addition to the requirements of Specification 4.0.5.

- a. Each Reactor Coolant Pump flywheel shall be inspected per the recommendations of Regulatory Position C.4.b of Regulatory Guide 1.14, Revision 1, August 1975.
- b. The reactor vessel nozzles shall be inspected at the end of each 10 year inspection interval, using techniques at least as sensitive as those used to conduct the supplemental examination performed prior to fuel loading. The results of this examination will be reported to the Commission.

## REACTOR COOLANT SYSTEM

### 3/4.4.11 REACTOR COOLANT SYSTEM HEAD VENTS

#### LIMITING CONDITION FOR OPERATION

---

3.4.11 At least one Reactor Coolant System Head Vent (RCSHV) path shall be OPERABLE.\*

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

- a. With no RCSHV path OPERABLE\*, restore at least one path to OPERABLE status within 30 days or be in HOT STANDBY within 6 hours and HOT SHUTDOWN within the following 6 hours.
- b. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.4.11 Each RCSHV path shall be demonstrated OPERABLE at least once per 18 months by:

- a.# Verifying that the upstream manual isolation valves are locked in the open position,
- b. Operating each remotely controlled valve through at least one cycle from the control room, and
- c. Verifying flow through each RCSHV path.

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\*Inoperable paths must be maintained closed with power removed from the valve actuators. If any RCSHV path is declared inoperable while in an applicable MODE, power shall be removed from the valve actuators within one hour.

#The requirement to verify that the upstream manual isolation valves are locked in the open position is waived until the Cycle 4 refueling outage. This waiver is granted on a one-time basis. At the first Mode 5 outage following issuance of the above waiver, a flow verification test will be performed to verify that the manual isolation valves are open.



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

ENCLOSURE 2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 138 TO FACILITY OPERATING LICENSE NO. DPR-79

TENNESSEE VALLEY AUTHORITY

SEQUOYAH NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-328

1.0 INTRODUCTION

By a letter dated August 27, 1990, the Tennessee Valley Authority (TVA) proposed changes to the Technical Specifications (TS) for Sequoyah Unit 2. These changes would delete (1) Table 4.4-5, "Reactor Vessel Material Surveillance Program - Withdrawal Schedule," and (2) all references to the Table 4.4-5 in the Surveillance Requirement (SR) 4.4.9.1.2. This is TVA TS Change Request Number 90-17.

These changes were issued as Amendment 87 to the Unit 1 TSs in the staff's letter dated October 14, 1988. In that letter, the staff requested that TVA propose the same changes for the Unit 2 TSs. This was done in the above application dated August 27, 1990.

2.0 EVALUATION

TVA is required to comply with 10 CFR Part 50, Appendix H, "Reactor Vessel Material Surveillance Program Requirements." The requirements of Appendix H provide for NRC approval of a proposed withdrawal schedule for the reactor vessel material irradiation surveillance specimens. Thus, the inclusion of Table 4.4-5 in SR 4.4.9.1.2 is redundant since this table is provided to satisfy the requirements of 10 CFR Part 50, Appendix H. The deletion of Table 4.4-5 is consistent with an improvement of the TS by removing specifications that are redundant to regulations, as recommended by the NRC Technical Specification Improvement Project and the Atomic Industrial Forum Subcommittee on TS Improvements. The regulation is Appendix H to 10 CFR Part 50 in this case.

The data of Table 4.4-5 is in Section 5.4.3.7, "Reactor Vessel Material Surveillance Program Requirements" of the Sequoyah Final Safety Analysis Report. Thus, the surveillance schedule would be available to NRC in an administratively controlled document that is reviewed and revised on a regular basis.

TVA has proposed to delete Table 4.4-5, "Reactor Vessel Material Surveillance Program - Withdrawal Schedule" and references to the Table in SR 4.4.9.1.2 due to the redundancy of the table with the requirements of 10 CFR Part 50, Appendix H. The staff has reviewed the proposed TS amendment and finds the changes acceptable.

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### 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 38605) on September 19, 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: December 17, 1990