

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

SUBJECT: ISSUANCE OF LICENSE AMENDMENTS FOR THE SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. M99645 AND M99646) (TS 97-02)

Dear Mr. Zeringue:

The Commission has issued the enclosed Amendment No. 231 to Facility Operating License No. DPR-77 and Amendment No. 221 to the Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TS) in response to your application dated September 17, 1997.

The amendments modify TS Surveillance Requirements (SRs) 4.6.2.1.1.b., 4.6.2.1.1.c., 4.6.2.1.1.d, and 4.6.2.1.2.b to account for a plant modification to the containment spray system and to make the SRs more consistent with the Westinghouse Standard TS (NUREG-1431).

A copy of our related Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

/s/

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

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Docket Nos. 50-327 and 50-328

- Enclosures: 1. Amendment No. 231 to License No. DPR-77  
 2. Amendment No. 221 to License No. DPR-79  
 3. Safety Evaluation

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**SEQUOYAH NUCLEAR PLANT**

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Tennessee Valley Authority

cc:

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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. 231  
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 September 17, 1997, 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. 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. 231 , 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 of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, 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 20, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 231

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Revise the Appendix A Technical Specifications by removing the page identified below and inserting the enclosed page. The revised page is identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

3/4 6-16a

INSERT

3/4 6-16a

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

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- b. By verifying that each pump's developed head at the flow test point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5. | R84
  - c. At least once per 18 months by:
    - 1. Verifying that each automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to its correct position on an actual or simulated actuation signal. |
    - 2. Verifying that each spray pump starts automatically on an actual or simulated actuation signal. |
  - d. At least once per 10 years verify each spray nozzle is unobstructed. |
- 4.6.2.1.2 Each RHR spray train shall be demonstrated OPERABLE: | R73
- a. Per surveillance requirements 4.5.2.b.2 and 4.5.2.f.3; |
  - b. At least once per 10 years verify each spray nozzle is unobstructed. |



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. 221

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 September 17, 1997, 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. 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. 221, 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 of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, 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 20, 1998

ATTACHMENT TO LICENSE AMENDMENT NO. 221

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Revise the Appendix A Technical Specifications by removing the page identified below and inserting the enclosed page. The revised page is identified by the captioned amendment number and contain marginal lines indicating the area of change.

REMOVE

3/4 6-16a

INSERT

3/4 6-16a

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- b. By verifying that each pump's developed head at the flow test point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5. | R71
  - c. At least once per 18 months by:
    - 1. Verifying that each automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to its correct position on an actual or simulated actuation signal. |
    - 2. Verifying that each spray pump starts automatically on an actual or simulated actuation signal. |
  - d. At least once per 10 years verify each spray nozzle is unobstructed. |
- 4.6.2.1.2 Each RHR spray train shall be demonstrated OPERABLE: | R61
- a. Per surveillance requirements 4.5.2.b.2 and 4.5.2.f.3; |
  - b. At least once per 10 years verify each spray nozzle is unobstructed. |



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 231 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 221 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 September 17, 1997. The amendments would revise the SQN Unit 1 and 2 Technical Specifications (TS) to modify Surveillance Requirements (SRs) 4.6.2.1.1.b, 4.6.2.1.1.c, 4.6.2.1.1.d, and 4.6.2.1.2.b to account for a plant modification to the containment spray system and to make the SRs more consistent with the Westinghouse Standard TS (NUREG-1431).

2.0 BACKGROUND

TVA proposes to modify the SQN Units 1 and 2 TS SR 4.6.2.1.1.b to replace the specific containment spray pump differential pressure requirements with new requirements that allow testing based on required developed head. Additional changes are proposed to SRs 4.6.2.1.1.c, 4.6.2.1.1.d, and 4.6.2.1.2.b to provide consistency with the Standard TS, NUREG-1431 to incorporate the flexibility provided by the NUREG. These changes do not alter the intent of the TS. These SRs require verifying the operability of the pumps and valves in the containment spray system. These changes are as follows:

SR 4.6.2.1.1.b - Replace the current pump verification requirements that prescribe a specific differential pressure at a minimum flow rate with a requirement to verify that the pump's developed head at the flow test point is greater than or equal to the required developed head.

SR 4.6.2.1.1.c - Delete the requirement for the 18-month surveillance to be performed "during shutdown."

SR 4.6.2.1.1.c.1 - Add the clarification that only automatic valves that are not locked, sealed, or otherwise secured in position are applicable.

SR 4.6.2.1.1.c.1 and .2 - Replace the specific actuation test signal with the requirement to verify the function on an actual or simulated actuation signal.

SR 4.6.2.1.1.d and 4.6.2.1.2.b - Delete the specific method for verifying spray nozzles are unobstructed.

TVA installed flow orifices in the containment spray flow paths to prevent excessive flows that could result in damage to the pumps. This change provided limited flow conditions to prevent the potential to create a pump air ingestion condition during switch over from the refueling water storage tank to the containment sump. The processing of the modification failed to identify the impact to TS requirements; however, proper performance of the containment spray pumps has been verified with the higher required developed head. This revision to the SQN TS will provide the appropriate requirements to accommodate the new developed head limits.

### 3.0 EVALUATION

The current TS requirements are not conservative with respect to the required containment spray pump pressure differential after modification of the flow orifices. The proposed change will require the pumps to perform at the required developed head regardless of changes to the system that result in changes to this value. This revision will require the pumps to perform at the appropriate limits for operability and plant procedures have been implemented to meet this requirement. This change accommodates the new developed head requirements for the containment spray pumps but does not alter the intent of this surveillance.

The remaining changes in this request are not initiated as a result of any change to the plant or to revise the intent of the TS requirements. These changes are proposed to implement requirements that are consistent with NUREG-1431.

The deletion of the "during shutdown" provision of the 18-month surveillances will continue to require the current frequency for these tests based on engineering judgment and operating experience and accommodates the performance of surveillances that require outage conditions. Deleting the "during shutdown" portion of these requirements will not affect performance of surveillances that require shutdown conditions but will provide the flexibility to perform those portions that do not require a unit shutdown.

The exclusion for automatic valves that are locked, sealed, or otherwise secured, with regard to the actuation test, has been added to clarify that valves administratively controlled in the required position do not require the actuation test. Since these valves are administratively controlled in the required position for accident mitigation, there is no benefit in performing this surveillance. This change will also provide consistency with Surveillance 4.6.2.1.1.a that verifies containment spray valves to be in the correct position with this same exclusion.

The revision for the containment pressure high-high test signal to be changed to an actual or simulated actuation signal does not alter the requirement such that the current source of the actuation signal cannot be used. The current requirement limits the type of actuation signal to a simulated test signal and does not have a provision for the use of an actual signal. The proposed change will allow the flexibility to use an actual signal for this actuation consistent with the NUREG wording.

The deletion of the specific method for verifying that spray nozzles are unobstructed will not change the intent of these surveillances. TVA will continue to verify the spray nozzles are open and available to provide flow; however, the method used for this verification does not need to be delineated in the TSs. This change will not alter the current verification method but will allow the technique to be changed if other appropriate methods are discovered that will meet the intent of the surveillances.

These revisions are consistent with NUREG-1431 and are implemented to provide flexibility without changing the intent of the TS requirements.

For the reasons stated above, the staff finds the proposed revisions to the SQN TS 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 amendments change the requirements with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and change surveillance requirements. The staff has determined that the amendments involve 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 amendments involve no significant hazards consideration and there has been no public comment on such finding (62 FR 52589). 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: R. Hernan

Dated: February 20, 1998