

December 29, 1982

Docket No. 50-327

Mr. H. G. Parris
Manager of Power
Tennessee Valley Authority
500A Chestnut Street, Tower II
Chattanooga, Tennessee 37401

Dear Mr. Parris:

Subject: Issuance of Amendment No. 24 to Facility Operating License
No. DPR-77 - Sequoyah Nuclear Plant, Unit 1

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 24 to Facility Operating License No. DPR-77.

This amendment changes the license condition related to hydrogen control measures and also changes the Technical Specifications to reflect the installation of a permanent hydrogen mitigation system (DHMS).

The Commission approved on December 15, 1982, the PHMS as adequate with the conditions that four additional igniters be installed in the upper containment and that additional tests be performed to demonstrate that the igniters initiate combustion under spray conditions. We request that, by January 28, 1983, you submit a proposed test program and schedule for performing these tests in a facility which would meet the license condition.

One aspect of your proposed surveillance Technical Specifications of September 17, 1982, was not acceptable. The basis for rejection was that the proposed visual inspection for cleanliness would not ensure operability. Your letter of December 23, 1982, however, agreed with the staff that each igniter would be verified to be a minimum of 1700°F (for startup as well as every 18 months). We recognize that the additional igniter tests could substantiate a lower minimum temperature and will consider a subsequent change to this Technical Specification upon completion of this test program.

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Mr. H. G. Parris

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December 29, 1982

A copy of the related safety evaluation supporting Amendment No. 24 to Facility Operating License DPR-77 is enclosed. Also enclosed is a copy of the Federal Register Notice which has been forwarded to the Office of the Federal Register for publication.

Sincerely,



Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

Enclosures:

1. Amendment No. 24 to DPR-77
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosures:

See next page

OFFICE	LA:DL:LB.#4	DL:LB.#4	DL:LB.#4				
SURNAME	MDuncan/hmc	CStahle	EAdensam				
DATE	12/1/82	12/1/82	12/28/82				

SEQUOYAH

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Manager of Power
Tennessee Valley Authority
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Chattanooga, Tennessee 37401

cc: Herbert S. Sanger, Jr., Esq.
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Mr. Bob Faas
Westinghouse Electric Corp.
P.O. Box 355
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Mr. Jerry Wills
Tennessee Valley Authority
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Chattanooga, Tennessee 37401

Mr. Donald L. Williams, Jr.
Tennessee Valley Authority
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Knoxville, Tennessee 37902

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c/o U.S. Nuclear Regulatory
Commission
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Soddy Daisy, Tennessee 37379

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& Federal Affairs
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404 James Robertson Way
Nashville, Tennessee 37219

Attorney General
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Nashville, Tennessee 37219

U.S. Environmental Protection
Agency
ATTN: EIS Coordinator
345 Courtland Street
Atlanta, Georgia 30308

Honorable Don Moore, Jr.
County Judge
Hamilton County Courthouse
Chattanooga, Tennessee 37402

Regional Administrator
Nuclear Regulatory Commission,
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

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DATE▶

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-327

SEQUOYAH NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 24
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment to the Sequoyah Nuclear Plant, Unit 1 (the facility) Facility Operating License No. DPR-77 filed by the Tennessee Valley Authority (licensee), dated September 17, 1982, 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, Facility Operating License No. DPR-77 is amended by the following change:
 - A. Change paragraph 2.C.(22)D. to read as follows:
 - D. Hydrogen Control Measures (Section 22.2.II.B.7)
 - (1) Four additional igniter units shall be installed in the containment upper containment compartment in locations acceptable to the NRC staff prior to startup following the second refueling outage.

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(2) Additional tests shall be performed on the Tayco igniter to demonstrate that the igniters will initiate combustion in a spray environment such as that expected in the upper compartment of the ice condenser containment.

B. The license is further amended by page changes to the Appendix A Technical Specifications as indicated in the attachments 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 Appendix A, as revised through Amendment No. 24, are hereby incorporated into 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

for *s/R. Purple*

Darrell G. Eisenhower, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: December 29, 1982

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ATTACHMENT TO LICENSE AMENDMENT NO. 24

FACILITY OPERATING LICENSE NO. DPR-79

DOCKET NO. 50-328

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

Amended
Page

3/4 6-25a

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HYDROGEN MITIGATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.4.3 The primary containment hydrogen mitigation system shall be operable.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one train of hydrogen mitigation system inoperable, restore the inoperable train to OPERABLE status within 7 days or increase the surveillance interval of S.R. 4.6.4.3 from 92 days to 7 days on the operable train until the inoperable train is returned to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.6.4.3 The hydrogen mitigation system shall be demonstrated OPERABLE:

- a. At least once per 92 days by energizing the supply breakers and verifying that at least 62 of 64 igniters are energized.*
- b. At least once per 18 months by verifying the temperature of each igniter is a minimum of 1700°F

*Inoperable igniters must not be on corresponding redundant circuits which provide coverage for the same region.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE DPR-77
TENNESSEE VALLEY AUTHORITY

INTRODUCTION

The operating license of Sequoyah Unit 1 contains a condition requiring that prior to startup, following the first refueling outage, the Commission must confirm that an adequate hydrogen control system for the plant is installed and will perform its intended function in a manner that provides adequate safety margins. The Commission met on December 15, 1982, and affirmed that the system now being installed in Unit 1 meets the license condition, subject to the satisfactory resolution of two items as proposed by the staff. These two items are the subject of this amendment. Also, TVA proposed in their letter of September 17, 1982, a Technical Specification revision for the hydrogen system being installed in Unit 1. Further revisions were provided in a TVA letter of December 23, 1982.

DISCUSSION

Supplement No. 6 to the SER provides the basis for the staff's conclusion and the Commission affirming that the TVA Permanent Hydrogen Mitigation System now being installed in Unit 1 is adequate, subject to meeting two new license conditions.

Specifically, these conditions concern the capability of the Tayco igniter to maintain (1) a surface temperature sufficient to initiate combustion in a spray environment and (2) the density of the igniters in the upper containment to ensure favorable consequences of the hydrogen burns in the upper compartment. Recent tests conducted by TVA indicate that the igniters will function as intended. However, the temperature margin provided by the igniters as shown in the TVA tests, appears to be small under spray conditions. The staff initially proposed a set of tests directed toward assuring adequate surface temperature under spray conditions. However, on subsequent consideration the staff proposed that such tests not be limited to igniter temperature but should demonstrate capability to initiate combustion under spray conditions. The staff will require that TVA complete certain additional ignition tests to verify that the Tayco igniter will function properly in a spray environment such as that expected in the upper compartment of the ice condenser containment. Also, the staff is requiring the installation of four additional igniters in the upper compartment at locations satisfactory to the staff. The installation of additional igniters in the upper compartment will provide a greater margin of safety.

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Also, TVA proposed some changes to the Technical Specifications to reflect the changes associated with the new hydrogen mitigation system. The new system is composed of 32 igniters in each of two trains. At a later date each train will be increased by 2 igniters. Surveillance requirement 4.6.4.3(a) is acceptable to the staff, since the procedures require energizing the igniters once per 92 days. A train is inoperable if more than one igniter fails to energize. Surveillance requirement 4.6.4.3(b), however, was not acceptable as proposed by TVA, since verifying that the igniter were clean every 18-months would not ensure operability. In discussions with the licensee, the staff indicated its belief that at least one per 18 months the temperature of each igniter should be verified to be at a minimum of 1700°F. TVA letter of December 23, 1982, accepted the staff's position until each time as the additional igniter tests results may change the operational temperature. The Technical Specification was modified to reflect the staff's position and the agreement of the licensee.

ENVIRONMENTAL CONSIDERATION

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: December 29, 1982

Principal Contributor: Carl Stahle, Licensing Branch No. 4, DL

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DATE

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO 50-327

TENNESSEE VALLEY AUTHORITY

NOTICE OF ISSUANCE OF AMENDMENT

FACILITY OPERATING LICENSE NO DPR-77

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 24 to Facility Operating License No. DPR-77 issued to Tennessee Valley Authority (licensee) for the Sequoyah Nuclear Plant, Unit 1 (the facility) located in Hamilton County, Tennessee. The amendment changes the license condition related to hydrogen control measures and also changes the Technical Specifications to reflect the installation of a permanent hydrogen mitigation system. The amendment is effective as of its date of issuance.

Issuance of the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of the amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of the amendment.

For further details with respect to this action, see (1) Nuclear Regulatory Commission Secretary's Memorandum dated December 23, 1982, (2) Tennessee Valley Authority letter dated September 17 and December 23, 1982, (3) Amendment No. 24 to Facility Operating License No. DPR-77; and (4) the Commission's related Safety Evaluation.

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OFFICE	and (5) Supplement No. 6 to the Commission's Safety Evaluation Report dated December						
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All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D. C., and the Chattanooga Hamilton County Bicentennial Library, 1001 Broad Street, Chattanooga, Tennessee 37402. A copy of Amendment No. 24 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 29th day of December 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

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Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

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December 17, 1982

Docket No: 50-327

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E. Adensam

C. Stahle

M. Duncan

M. Miller

D. Eisenhut

OELD

MEMORANDUM FOR: Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

THRU: Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

FROM: Carl Stahle, Project Manager
Licensing Branch No. 4
Division of Licensing

SUBJECT: ISSUANCE OF AMENDMENT NO. 24 TO FACILITY OPERATING
LICENSE DPR-77 SEQUOYAH NUCLEAR PLANT, UNIT 1

Regarding the issuance of subject amendment, there is no known public
correspondence or irreversible impact associated with this subject.

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Carl Stahle, Project Manager
Licensing Branch No. 4
Division of Licensing

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SURNAME	MDuncan/hmc	Stahle	EAdensam				
DATE	12/17/82	12/17/82	12/22/82				

AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE DPR-77 - SEQUOYAH UNIT 1

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