

Docket Nos. 50-327
and 50-328

July 31, 1989

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

Dear Mr. Kingsley:

SUBJECT: CONTAINMENT AIR RETURN FAN MOTORS CURRENT VALUE (TAC 72753/72754)
(TS 88-27) - SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2

The Commission has issued the enclosed Amendment No. 121 to Facility Operating License No. DPR-77 and Amendment No. 110 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. These amendments are in response to your application dated March 27, 1989.

The amendments revise the Sequoyah Nuclear Plant, Units 1 and 2, Technical Specifications. The changes increase the base current value for the containment air return fans in Surveillance Requirement 4.6.5.6 from 28 amperes to 32 amperes. The band for an acceptable current (i.e., ± 7.5 amperes) is not being changed.

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

Sincerely,
Original signed by
B. D. Liaw for

Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 121 to License No. DPR-77
2. Amendment No. 110 to License No. DPR-79
3. Safety Evaluation

cc w/enclosures:
See next page

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Mr. Oliver D. Kingsley, Jr.

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cc:

General Counsel
Tennessee Valley Authority
400 West Summit Hill Drive
ET 11B 33H
Knoxville, Tennessee 37902

Mr. F. L. Moreadith
Vice President, Nuclear Engineering
Tennessee Valley Authority
400 West Summit Hill Drive
WT 12A 12A
Knoxville, Tennessee 37902

Dr. Mark O. Medford
Vice President and Nuclear
Technical Director
Tennessee Valley Authority
6N 38A Lookout Place
Chattanooga, Tennessee 37402-2801

Manager, Nuclear Licensing
and Regulatory Affairs
Tennessee Valley Authority
5N 157B Lookout Place
Chattanooga, Tennessee 37402-2801

Mr. John L. LaPoint
Site Director
Sequoyah Nuclear Plant
Tennessee Valley Authority
P. O. Box 2000
Soddy Daisy, Tennessee 37379

Mr. M. Burzynski
Acting Site Licensing Manager
Sequoyah Nuclear Plant
P. O. Box 2000
Soddy Daisy, Tennessee 37379

County Judge
Hamilton County Courthouse
Chattanooga, Tennessee 37402

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N.W.
Atlanta, Georgia 30323

Mr. Kenneth M. Jenison
Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, Tennessee 37379

Mr. Michael H. Mobley, Director
Division of Radiological Health
T.E.R.R.A. Building, 6th Floor
150 9th Avenue North
Nashville, Tennessee 37219-5404

Dr. Henry Myers, Science Advisor
Committee on Interior
and Insular Affairs
U.S. House of Representatives
Washington, D.C. 20515

Tennessee Valley Authority
Rockville Office
11921 Rockville Pike
Suite 402
Rockville, Maryland 20852



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

TENNESSEE VALLEY AUTHORITY
DOCKET NO. 50-327
SEQUOYAH NUCLEAR PLANT, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 121
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 March 27, 1989, 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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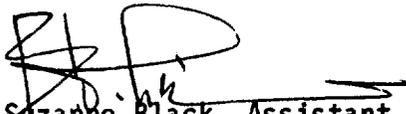
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 121, 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


Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 31, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 121

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

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 6-33

INSERT

3/4 6-33

CONTAINMENT SYSTEMS

CONTAINMENT AIR RETURN FANS

LIMITING CONDITION FOR OPERATION

3.6.5.6 Two independent containment air return fans shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment air return fan inoperable, restore the inoperable fan to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.6 Each containment air return fan shall be demonstrated OPERABLE:

- a. At least once per 92 days on a STAGGERED TEST BASIS by:
 1. Verifying that the fan motor current is 32 ± 7.5 amps with the backdraft dampers closed, and
 2. Verifying that with the fan off, the air return fan damper opens when a torque of less than or equal to 68.1 inch-pounds is applied to the counterweight.
- b. At least once per 18 months by verifying that the air return fan starts on an auto-start signal after a 10 ± 1 minute delay and operates for at least 15 minutes.



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. 110
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 March 27, 1989, 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. According to 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. 110, 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


Suzanne Black, Assistant Director
for Projects
TVA Projects Division
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 31, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 110

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.

REMOVE

3/4 6-33

3/4 6-34

INSERT

3/4 6-33*

3/4 6-34

CONTAINMENT SYSTEMS

DIVIDER BARRIER PERSONNEL ACCESS DOORS AND EQUIPMENT HATCHES

LIMITING CONDITION FOR OPERATION

3.6.5.5 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be OPERABLE and closed.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With a personnel access door or equipment hatch inoperable or open except for personnel transit entry, restore the door or hatch to OPERABLE status or to its closed position (as applicable) within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.5.1 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be determined closed by a visual inspection prior to increasing the Reactor Coolant System T_{avg} above 200°F and after each personnel transit entry when the Reactor Coolant System T_{avg} is above 200°F.

4.6.5.5.2 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be determined OPERABLE by visually inspecting the seals and sealing surfaces of these penetrations and verifying no detrimental misalignments, cracks or defects in the sealing surfaces, or apparent deterioration of the seal material:

- a. Prior to final closure of the penetration each time it has been opened, and
- b. At least once per 10 years for penetrations containing seals fabricated from resilient materials.

CONTAINMENT SYSTEMS

CONTAINMENT AIR RETURN FANS

LIMITING CONDITION FOR OPERATION

3.6.5.6 Two independent containment air return fans shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment air return fan inoperable, restore the inoperable fan to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4 6.5.6 Each containment air return fan shall be demonstrated OPERABLE:

- a. At least once per 92 days on a STAGGERED TEST BASIS by:
 1. Verifying that the fan motor current is 32 ± 7.5 amps with the backdraft dampers closed, and
 2. verifying that with the fan off, the air return fan damper opens when a torque of less than or equal to 68.1 inch-pounds is applied to the counterweight.
- b. At least once per 18 months by verifying that the air return fan starts on an auto-start signal after a 10 ± 1 minute delay and operates for at least 15 minutes.



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

ENCLOSURE 3

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 121 TO FACILITY OPERATING LICENSE NO. DPR-77

AND AMENDMENT NO. 110 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

By letter dated March 27, 1989, the Tennessee Valley Authority (TVA) proposed changes to the Sequoyah Nuclear Plant, Units 1 and 2, Technical Specifications (TS). The proposed changes would increase the value of the base current for the containment air return fans (CARF), in Surveillance Requirement (SR) 4.6.5.6, from 28 to 32 amperes. The band for an acceptable current, ± 7.5 amperes, is not being changed by this proposed action.

2.0 EVALUATION

The CARF system is described in Section 6.6 of the Sequoyah Final Safety Analysis Report. There are two 100% capacity air return fans in the containment. Their primary purpose is to enhance the ice condenser and containment spray heat removal operation during an accident by circulating air from the upper compartment to the lower compartment, through the ice condenser, and then back to the upper compartment. The secondary purpose is to limit hydrogen concentrations in potentially stagnant regions of containment by ensuring a flow of air from these regions.

The surveillance test of the fan motors involves blocking the respective back-draft damper of the CARF and covering the damper with a tarpaulin. This is to prevent full-flow conditions and the inadvertent opening of the ice condenser doors. The existing plant configuration and design does not allow periodic full-flow testing of the fans to be performed because of the detrimental effects that this type of testing would have on the ice contained within the ice condenser. A full-flow test of each fan was performed under TVA's preoperational testing program before initial plant startup. The test confirmed the ability of each fan to move the proper amount of air. The base current value of 28 amperes in SR 4.6.5.6 is from the current measured for the motors for the preoperational surveillance test with the back-draft damper blocked and covered.

After the surveillance test is run with the back-draft damper blocked and covered, TVA stated that the fan is stopped, the damper is uncovered, unblocked, and verified to operate correctly by checking the torque value required to open the damper and the fan is placed in standby position.

In its submittal, TVA explained that the CARF motors are rated 460-V ac and 58 amperes (full load). The cables are rated for this current. A review of data from the surveillance tests shows that the average ampere for the CARF motors is approximately 31.6 amperes (data average through 1985) and approximately 33.5 amperes (post-1985 data average). This data is in Attachment 1 of TVA's submittal. TVA stated that the amperage values obtained are only test values and do not affect calculations that are associated with the system's safety analysis. These amperage values are lower than the design rating of the CARF motors because these tests were performed under normal environmental conditions and not accident conditions. The containment air during surveillance tests will be at different conditions than would exist under postulated accident conditions; and the CARF current values obtained would be expected to be lower under a non-accident-type environment of the surveillance tests.

TVA stated that the surveillance test data indicates that the base amperage value of 28 amperes is too low because the amperage values have consistently remained on the upper end of the amperage window and because the base amperage value of 28 amperes was determined prior to initial plant operation by performance of a single test for which the test conditions are not documented. The proposed base amperage value of 32 amperes was determined from surveillance data obtained from 1980 to 1988 during operating conditions. This increase does not affect the system's operation or function, but merely allows the establishment of a better base current value to verify CARF operability.

The staff has reviewed the TVA submittal dated March 27, 1989. It concludes that the base fan motor current value in SR 4.6.5.6 should be increased to 32 amperes to agree with the average of the surveillance test data from 1980 to the present. The current value of 28 amperes was only based on the performance of a single test. All of the surveillance tests have resulted in measured ampere values greater than the current 28 amperes. The band for an acceptable current (i.e., ± 7.5 amperes) is not being changed by this proposal. The staff concludes that the proposed change is acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

These amendments involve 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 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 these amendments involve no significant hazards consideration and there has been no public comment on such finding. 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 nor environmental assessment need to be prepared in connection with the issuance of these amendments.

4.0 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (54 FR 15838) on April 19, 1989, 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, and (2) such activities will be conducted in compliance with the Commission's regulations, and 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: July 31, 1989

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Requestor's ID:
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Author's Name:
JDonohew

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Request for Publication



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

July 31, 1989

Docket Nos. 50-327
and 50-328

MEMORANDUM FOR: Sholly Coordinator

FROM: Suzanne Black, Assistant Director
for Projects, NRR

SUBJECT: REQUEST FOR PUBLICATION IN BI-WEEKLY FR NOTICE - NOTICE
OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE
(TAC 72753/72754)

Tennessee Valley Authority, Docket Nos. 50-327 and 50-328, Sequoyah Nuclear
Plant, Units 1 and 2, Hamilton County, Tennessee

Date of application for amendments: March 27, 1989 (TS 88-27)

Brief description of amendments: The amendments revise the Sequoyah Nuclear
Plant, Units 1 and 2, Technical Specifications. The changes increase the base
current value for the containment air return fans, in Surveillance Require-
ment 4.6.5.6, from 28 amperes to 32 amperes. The band for an acceptable current
(i.e., ± 7.5 amperes) is not being changed.

Date of issuance: July 31, 1989

Effective date: July 31, 1989

Amendment Nos.: 121, 110

Facility Operating Licenses Nos. DPR-77 and DPR-79. Amendments revised the
Technical Specifications.

Date of initial notice in FEDERAL REGISTER: April 19, 1989 (54 FR 15838)

The Commission's related evaluation of the amendment is contained in a Safety
Evaluation dated July 31, 1989.

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No significant hazards consideration comments received: No

Local Public Document Room location: Chattanooga-Hamilton County Library,
1001 Broad Street, Chattanooga, Tennessee 37402.


For Suzanne Black, Assistant Director
for Projects, NRR

No significant hazards consideration comments received: No

Local Public Document Room location: Chattanooga-Hamilton County Library,
1001 Broad Street, Chattanooga, Tennessee 37402.

Suzanne Black, Assistant Director
for Projects, NRR

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