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

APR 15 1981

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. 5 TO FACILITY OPERATING LICENSE NO. DPR-77 - SEQUOYAH NUCLEAR PLANT, UNIT 1

The Nuclear Regulatory Commmission has issued the enclosed Amendment No. 5 to Facility Operating License No. DPR-77.

This amendment changes the time limit on the operation of the containment purge and vent systems from 90 hours per 365 days to less than or equal to 1000 hours per 365 days. The Commission requires the additional information proposed in your March 3, 1981 and April 2, 1981 letters prior to a determination of the final purge and vent time limit. We may reconsider your proposal to increase the time limit to 2440 hours per 365 days (as requested in your February 10, 1981 letter) upon receipt of this information.

A copy of the related safety evaluation supporting Amendment No. 5 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,

A. Schwencer

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosures:
1. Amendment No. 5
2. Safety Evaluation
3. Federal Register Notice

cc w/enclosures:
See next page

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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. 5
License No. DPR-77

1. The Nuclear Regulatory Commission (the Commission) having 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 January 8, February 10, March 3, and April 2, 1981 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, the license is hereby 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. 5, are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This amended license is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Attachment:
Appendix A Technical
Specification Changes

Date of Issuance:
April 15, 1981

ATTACHMENT TO LICENSE AMENDMENT NO. 5

FACILITY OPERATING LICENSE NO. DPR-77

DOCKET NO. 50-327

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contains vertical lines indicating the area of change. The corresponding overleaf pages are also provided to maintain document completeness.

Overleaf Page	Amended Page
3/4 6-16	3/4 6-15
	B3/4 6-3
	B3/4 6-3a

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.1.9 One pair (one purge supply line and one purge exhaust line) of containment purge system lines may be open; the containment purge supply and exhaust isolation valves in all other containment purge lines shall be closed. Operation with purge supply or exhaust isolation valves open for either purging or venting shall be limited to less than or equal to 1000 hours per 365 days.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

With a purge supply or exhaust isolation valve open in excess of the above cumulative limit, or with more than one pair of containment purge system lines open, close the isolation valve(s) in the purge line(s) within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.9.1 The position of the containment purge supply and exhaust isolation valves shall be determined at least once per 31 days.

4.6.1.9.2 The cumulative time that the purge supply and exhaust isolation valves are open during the past 365 days shall be determined at least once per 7 days.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 48# hours or be in HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 36# hours or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. By verifying, that on recirculation flow, each pump develops a discharge pressure of greater than or equal to 140 psig when tested pursuant to Specification 4.0.5.

c. At least once per 18 months during shutdown, by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Containment Pressure--High-High test signal.

2. Verifying that each spray pump starts automatically on a Containment Pressure--High-High test signal.

d. At least once per 5 years by performing an air or smoke flow test through each spray header and verifying each spray nozzle is unobstructed.

#These more stringent requirements shall remain in effect pending resolution of the hydrogen control matter.

3/4.6.1.8 EMERGENCY GAS TREATMENT SYSTEM (EGTS)

The OPERABILITY of the EGTS cleanup subsystem ensures that during LOCA conditions, containment vessel leakage into the annulus will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere. This requirement is necessary to meet the assumptions used in the accident analyses and limit the site boundary radiation doses to within the limits of 10 CFR 100 during LOCA conditions. Cumulative operation of the system with the heaters on for 10 hours over a 31 day period is sufficient to reduce the buildup of moisture on the absorbers and HEPA filters. ANSI N510-1975 will be used as a procedural guide for surveillance testing.

3/4.6.1.9 CONTAINMENT VENTILATION SYSTEM

Use of the containment purge lines is restricted to only one pair (one supply line and one exhaust line) of purge system lines at a time to ensure that the site boundary dose guidelines of 10 CFR Part 100 would not be exceeded in the event of a loss of coolant accident during purging operations. The analysis of this accident assumed purging through the largest pair of lines (a 24 inch inlet line and a 24 inch outlet line), a pre-existing iodine spike in the reactor coolant and four second valve closure times.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA. By letters dated March 3, 1981, and April 2, 1981, TVA will submit a report on the operating experience of the plant no later than startup after the first refueling. This information will be used to proivde a basis to re-evaluate the adequacy of the purge and vent time limits.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit or the purge system

SAFETY EVALUATION REPORT BY THE

OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 5

TO FACILITY OPERATING LICENSE DPR-77

TENNESSEE VALLEY AUTHORITY

In Supplement No. 2 to the Sequoyah Safety Evaluation Report (SER), the staff held the view that restrictions of 90 hours per year should be placed on containment purging and venting during plant operation, pending further analysis of the containment purging and venting requirements during normal plant operations.

By letters dated January 8 and February 10, 1981, TVA requested a change in the Technical Specifications to increase the time limitation on purging and venting. In justifying this, TVA has identified the need to maintain the containment pressure within Technical Specification limits, and to maintain activity levels within the containment atmosphere sufficiently low to permit personnel access to the ice condenser system components for inspection and maintenance, and to satisfy the surveillance requirements of the Technical Specifications. TVA estimated combined purging/venting needs in excess of 2440 hours per year. The staff has reviewed TVA's submittal, and has found that while their request appears to have merit, additional justification of the final purge/vent system operations is needed. By letters dated March 3, and April 2, 1981, TVA agreed to submit a detailed report on the operating experience of the plant no later than startup after the first refueling. This information will be used to provide a sound basis to determine the adequacy of the purge and vent time limit for the Sequoyah Nuclear Plant. Pending receipt of this additional information, the staff will limit purge/vent system operation as follows:

1. The Technical Specifications for the Sequoyah Nuclear Plant, Unit 1 are changed to limit use of the containment purge and vent systems to a total of no more than 1000 hours per year, per reactor unit, during the normal plant operating modes of startup, power operation, hot standby, and hot shutdown, with only one pair of purge/vent lines open at a time. The 1000 hour limit applies to the total time in use of all vent lines and purge lines. The staff's basis for finding the 1000 hour limit acceptable is that the design of the systems conforms with the provisions of Branch Technical Position 6-4. That is, the valves have satisifed certain operability criteria and the associated dose criteria. The staff considers that at least 1000 hours/year are justified for purging and venting at Sequoyah in order to:

a) Limit for safety reasons, pressure buildup in containment during normal operations.

b) Promote as low as reasonably achievable exposure from airborne radioactivity to personnel entering containment during normal operation to perform safety related maintenance and surveillance.

2. In the cold shutdown and refueling modes, all purging and venting lines may be used simultaneously and without time limitation. This evaluation conforms to the requirements of General Design Criteria 54, 55, 56, and 57 with respect to containment purging and venting.

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 and does not involve a significant decrease in a safety margin, the amendment 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: April 15, 1981

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. 5 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. This amendment changes the time limit on the operation of the containment purge and vent systems from 90 hours per 365 days to less than or equal to 1000 hours per 365 days.

The application for the amendment complies with the standard 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 this 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 this amendment.

For further details with respect to this action, see (1) Tennessee Valley Authority letters dated January 8, 1981, February 10, 1981, March 3, 1981, and and April 2, 1981 (2) Amendment No. 5 to Facility Operating License No. DPR-77 with Appendix A Technical Specification page changes, and (3) the Commission's related Safety Evaluation.

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. 5 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 15th day of April, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

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