

October 30, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: ISSUANCE OF AMENDMENT TO THE FACILITY OPERATING LICENSE FOR THE
SEQUOYAH NUCLEAR PLANT, UNIT 2 (TAC NO. M92385) (TS 95-13)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 204 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear Plant, Unit 2. The amendment is in response to your application dated May 19, 1995, which was revised by letter dated September 11, 1995.

The amendment modifies License Condition 2.C.(17) by extending the required surveillance interval to May 18, 1996, for Surveillance Requirement 4.3.2.1.3 for certain specified engineered safety features response time tests.

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

Sincerely,

Original signed by

David E. LaBarge, Sr. Project Manager
Project Directorate II-3
Division of Reactor Projects - I/I
Office of Nuclear Reactor Regulation

Docket No. 50-328

- Enclosures: 1. Amendment No. 204 to License No. DPR-79
- 2. Safety Evaluation

cc w/enclosures: See next page

Distribution

Docket File	PUBLIC	SN Rdg.
SVarga	OGC	GHill(2)
CGrimes	ACRS	EMerschhoff, RII
		MLesser

DOCUMENT NAME: g:\eqn\92385.AME

To receive a copy of this document, indicate in the box:

"C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure

"N" = No copy

OFFICE	PDII-3/LA	<input checked="" type="checkbox"/> PDII-3/PM	<input checked="" type="checkbox"/> HICB	<input checked="" type="checkbox"/> OGC	PDII-3/D	<input checked="" type="checkbox"/>
NAME	BClayton <i>bae</i>	DLaBarge <i>DL</i>	JWentley <i>JW</i>	R Bachmann	FHebdon <i>FH</i>	
DATE	9/13/95	9/14/95	9/18/95	9/19/95	10/30/95	

OFFICIAL RECORD COPY

9511030208 951030
PDR ADOCK 05000328
P PDR

010121

NRC FILE CENTER COPY

DFD



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. 204
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 May 19, 1995, which was revised by letter dated September 11, 1995, 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, Paragraph 2.C.(17) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(17) Surveillance Interval Extension

The performance interval for the 36-month surveillance requirements in TS 4.3.2.1.3 shall be extended to May 18, 1996, to coincide with Cycle 7 refueling outage. The extended interval shall not exceed a total of 50 months for the 36-month surveillances.

3. This license amendment is effective as of its date of issuance, to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

 FOR
Frederick J. Hebdon, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Page 11 of License

Date of Issuance: October 30, 1995

* Page 11 is attached for convenience, for the composite license to reflect this change.

s. Primary Coolant Outside Containment (Section 22.2, III.D.1.1)

Prior to exceeding 5 percent power level, TVA is required to complete the leak tests on Unit 2, and results are to be submitted within 30 days from the completion of the testing.

(17) Surveillance Interval Extension

The performance interval for the 36-month surveillance requirements in TS 4.3.2.1.3 shall be extended to May 18, 1996, to coincide with the Cycle 7 refueling outage. The extended interval shall not exceed a total of 50 months for the 36-month surveillances.

- D. Exemptions from certain requirements of Appendices G and J to 10 CFR Part 50 are described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplements No. 1 and No. 5. These exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore, these exemptions are hereby granted. The facility will operate, to the extent authorized herein, in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission.

A temporary exemption from General Design Criterion 57 found in Appendix A to 10 CFR part 50 is described in the Office of Nuclear Reactor Regulation's Safety Evaluation Report, Supplement No. 5, Section 6.2.4. This exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. The exemption, therefore, is hereby granted and shall remain in effect through the first refueling outage as discussed in Section 6.2.4 of Supplement 5 to the Safety Evaluation Report. The granting of the exemption is authorized with the issuance of the Facility Operating License. The facility will operate, to the extent authorized herein, in conformity with the application as amended, the provisions of the Act, and the regulations of the Commission. Additional exemptions are listed in attachment 2.

E. Physical Protection

The Licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revision to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The Safeguards Contingency Plan is incorporated into the Physical Security Plan. The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Sequoyah Physical Security Plan," with revisions submitted through November 23, 1987; and "Sequoyah Security Personnel Training and Qualification Plan," with revisions submitted through April 16, 1987. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 204 TO FACILITY OPERATING LICENSE NO. DPR-79
TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT, UNIT 2
DOCKET NO. 50-328

1.0 INTRODUCTION

By application dated May 19, 1995, the Tennessee Valley Authority (the licensee) proposed an amendment to the Operating License for Sequoyah Nuclear Plant (SQN) Unit 2. The requested change would, on a one-time basis, revise License Condition 2.C.(17) to extend the required surveillance interval to May 4, 1996, for Surveillance Requirement (SR) 4.3.2.1.3 for certain engineered safety features response time tests. The tests involve the 36-month response time verification for safety injection, feedwater isolation, containment isolation Phase A, auxiliary feedwater pump, essential raw cooling water system, emergency gas treatment system, containment spray, containment isolation Phase B, turbine trip, 6.9-kilovolt shutdown board degraded voltage or loss of voltage, and automatic switchover to containment sump actuations. The proposed extension will limit the interval past the allowable extension of Technical Specification (TS) 4.0.2 (1.25 times the stated interval) to 4.5 months so they can be performed during the Cycle 7 refueling outage. All future tests will then return to the normal 36-month frequency specified in the TS.

Three other similar tests that are listed in the SR have been performed and are not affected by the requested extension (containment ventilation isolation, steam line isolation, and engineered safety feature actuation system interlocks).

By letter dated September 11, 1995, the licensee revised the proposed amendment to reflect a change to the start of the refueling outage from April 19, 1996 to May 3, 1996. As a result, the one-time extension for License Condition 2.C.(17) surveillance interval would be changed to May 18, 1996, and the interval past the extension allowed by TS 4.0.2 would be 5 months. The licensee indicated that no other surveillance tests than those described in the original submittal were affected by the change to the start of the refueling outage. In addition, the licensee indicated there was no change to the original justification for the changes and the no significant hazards consideration. A revised notice was published in the FEDERAL REGISTER, however, to reflect the interval change. The following analysis is based on the revised interval.

ENCLOSURE 2

2.0 EVALUATION

SN Unit 2 experienced an extended forced outage during Operating Cycle 6 due to equipment problems. This forced outage resulted in a delay in completing Cycle 6 operation, pushed all subsequent operating and refueling cycles forward a number of months, and created difficulty in meeting the required surveillance intervals for many surveillances that are performed during refueling outages. As a result, TVA requested and received approval to extend several surveillances into the Cycle 6 refueling outage. During that outage, TVA intended to return all affected surveillances to a schedule that would conform to the required testing intervals, thereby eliminating the need for additional schedular extensions. Operating Cycle 7 (the present operating cycle) commenced with startup from the Cycle 6 refueling outage in November 1994 and is scheduled to end when the next refueling outage begins in May 1996.

TVA discovered that 24 response-time surveillance procedures associated with SR 4.3.2.1.3, performed on a 36-month frequency, were overlooked and will expire before the Cycle 7 refueling outage. TVA performed 20 of the 24 procedures during the forced shutdown in April 1995, but could not perform the 4 remaining procedures without significantly extending the duration of the forced outage. These four procedures affect all of the systems that are listed above that need schedular extension. The first of these four procedures will exceed the 36-month surveillance interval, plus the 25 percent extension allowed by TS 4.0.2, on December 20, 1995, and the last on February 8, 1996.

The surveillance tests for which an extension is requested cannot be performed during power operation without risk of a unit transient. Without the extensions, either a shutdown on or before December 20, 1995, would be necessary or testing would have to be performed at power.

Normally the proposed extension period would end on the date that the unit is actually shut down to begin the refueling outage (May 3, 1996). However, to allow for unforeseen impacts to the operating capacity factor, TVA has requested to extend the proposed surveillances to May 18, 1996. The maximum surveillance interval extension requested for these procedures is, therefore, 5 months above the maximum extension allowed by TS.

In its application for the amendment, TVA concluded that the reliability established by the normal surveillance interval will not be significantly reduced by the extension. This conclusion is based on the following information supplied by TVA:

Response time tests are performed on instrumentation loops from the sensor to the final actuating device. These tests involve timing of the sensor, Eagle 21 components, solid state protection system (SSPS) logic and relays, and the final actuating device to determine an overall instrumentation loop response time. For the Eagle 21 components, the major contributor to response time is loop cycle time, which is verified by each quarterly functional test performed within that rack. The SSPS logic is tested on a

bi-monthly interval to verify functionality and supports acceptable response time capability. The required response time intervals for the Eagle 21 and SSPS logic are 309 and 6 milliseconds, respectively, and are not a significant contributor to overall loop response time. The sensors, SSPS relays, and final actuating devices are tested at refueling outages to assess the acceptability of their response times.

The sensors involved in the response time tests include pressure transmitters and differential pressure transmitters. A review of the past three surveillance performances for these devices did not indicate time-based trends that would result in exceeding response time requirements considering the proposed extension. Industry positions support the consideration of eliminating response time testing for transmitters and switches. This consideration is based on extensive evidence that these devices do not exhibit response time drift over a period of time. In general, the testing for response times of these devices in the industry has not detected response time failures that would not be identified by calibrations, functional testing, or channel checks. Therefore, channel checks, that will continue to be performed during the remainder of the fuel cycle, will provide reasonable confidence that the sensors are functional and that expected response times will remain within acceptable response time limits.

The SSPS relays that would require the proposed extension for response time considerations have not exhibited response time drift. Review of past response time tests have verified this position and do not indicate changes in testing values as a result of test intervals. The repeatability of response times associated with the operation of relays and the historical data supports the proposed change to extend the response time surveillances.

The majority of the final actuation devices for response time testing are valves. The affected valves for the proposed extension primarily involve those that are also tested by the Section XI Program. Of the valves not in the Section XI Program, a review of recent tests did not indicate a failure to meet the response time requirements. Recent response time tests for the other final actuating devices, which includes pumps and breakers, were also reviewed and no adverse trends were identified. The historical results of past response time tests, along with most valves also being tested in the Section XI Program, provide adequate confidence that response times will remain within acceptable values for the proposed extension interval.

Periodic surveillance requirements were not intended to adversely affect safe plant operation simply because a specified surveillance interval does not coincide with plant operating schedules. Normally, variations in schedules can be accommodated through the existing technical specifications. Specifically, TS 4.0.2 is an administrative control that ensures surveillance tests are performed within the specified interval, but it provides for an allowable tolerance of 25 percent for performing surveillances beyond the

normal surveillance interval. This tolerance provides operational flexibility to allow for scheduling and performance considerations while still ensuring that the reliability of the equipment or system associated with the surveillance is not significantly degraded beyond that obtained from the nominal specified surveillance interval.

The staff has determined that the additional extension for the particular engineered safety features response time procedures will not be adverse to safety. The staff has also determined that reasonable assurance exists that no significant degradation in the response times will occur for the instrument loops for which an extension in the surveillance schedule has been requested by the licensee. The surveillance interval extension proposed by TVA may result in a slightly diminished confidence in the reliability that would be provided by TS 4.0.2, but TVA has satisfactorily addressed this concern.

The proposed change to License Condition 2.C.(17) would extend certain specified engineered safety features response time instrument tests from 36 months to a maximum of 50 months. The staff believes that the change in the level of safety resulting from extending the surveillance interval approximately 5 months beyond the present maximum extension allowed by the TS (which includes the 25 percent allowed by TS 4.0.2) is not significant for the tests. Therefore, the staff finds the proposed license condition change acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Tennessee State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes surveillance requirements. The NRC 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (60 FR 49948). 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 or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 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: David E. LaBarge

Dated: October 30, 1995

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

SEQUOYAH NUCLEAR PLANT

cc:

Mr. O. J. Zeringue, Sr. Vice President
Nuclear Operations
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

TVA Representative
Tennessee Valley Authority
11921 Rockville Pike
Suite 402
Rockville, MD 20852

Dr. Mark O. Medford, Vice President
Engineering & Technical Services
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW., Suite 2900
Atlanta, GA 30323

Mr. D. E. Nunn, Vice President
New Plant Completion
Tennessee Valley Authority
3B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. William E. Holland
Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, TN 37379

Mr. R. J. Adney, Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

Mr. Michael H. Mobley, Director
Division of Radiological Health
3rd Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

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

County Judge
Hamilton County Courthouse
Chattanooga, TN 37402-2801

Mr. P. P. Carrier, Manager
Corporate Licensing
Tennessee Valley Authority
4G Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Ralph H. Shell
Site Licensing Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379