



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

50-327/328

August 22, 1995

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

SUBJECT: ISSUANCE OF TECHNICAL SPECIFICATION AMENDMENTS FOR THE SEQUOYAH  
NUCLEAR PLANT, UNITS 1 AND 2 (TAC NOS. M92212 AND M92213) (TS 93-09)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment No. 207 to Facility Operating License No. DPR-77 and Amendment No. 197 to Facility Operating License No. DPR-79 for the Sequoyah Nuclear (SQN) Plant, Units 1 and 2, respectively. These amendments are in response to your application dated May 3, 1995, in which you requested that the implementation dates for Amendments Nos. 188 and 180 for SQN 1 and 2, respectively, be delayed until the related plant modifications and technical specifications (TS) can be revised and executed.

The original amendments addressing the same TS changes were issued on May 24, 1994, as Amendment Nos. 182 and 174, for SQN Units 1 and 2, respectively, in response to your application dated October 1, 1993, and required that the amendments for each unit be implemented during the Unit 2 Cycle 6 refueling outage. Subsequently, by letter dated August 19, 1994, you requested that the implementation date for these amendments be revised. In response to this request, the Commission issued Amendment Nos. 188 and 180 for SQN Units 1 and 2, respectively, indicating that implementation would occur as soon as acceptable plant conditions and modification activities/procedures are established in 1995. The present amendments change this implementation schedule again, but do not specify an implementation date. No changes to the Technical Specification pages that were issued with Amendment Nos. 182 and 174 are involved with the present amendments. They are, however, attached to reflect the new amendment numbers and some have been modified to reflect later amendments where appropriate.

The original changes revise the setpoints and time delays for the auxiliary feedwater loss of power and the 6.9 kv shutdown board loss of voltage and degraded voltage instrumentation.

It is requested that you keep NRR and the Sequoyah Resident Inspector staff informed of significant activities and schedules related to implementation of the design changes and that you inform the Commission in writing when implementation has been completed.

9508250256 950822  
PDR ADOCK 05000327  
P PDR

NRC FILE CENTER COPY

DF011

Oliver D. Kingsley, Jr.

- 2 -

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/II  
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

- Enclosures: 1. Amendment No. 207 to License No. DPR-77
- 2. Amendment No. 197 to License No. DPR-79
- 3. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket Files

PUBLIC

SN Reading File

S. Varga 014-E-4

M. Lesser RII  
OGC 015-B-18

C. Grimes  
G. Hill T5-C3 (2 per docket)  
ACRS (4)

E. Merschoff RII

DOCUMENT NAME: G:92212.AMM

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	PDII-3/PM	DE/EELB	OGC	PDII-3/D	C
NAME	BClayton <i>BC</i>	DLaBarge <i>D</i>	CBerlinger <i>CB</i>	JC <i>JC</i>	FHebdon <i>F</i>	
DATE	7/31/95	7/31/95	8/2/95	7/31/95	8/22/95	

OFFICIAL RECORD COPY  
*3/5/95*  
*8/2/95*

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

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



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. 207  
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 May 3, 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.

9508250264 950822  
PDR ADDCK 05000327  
P PDR

2. Accordingly, Facility Operating Licensee DPR-77 is amended by changing the implementation date of Amendment No. 182 to read as follows:

License Amendment 182 is effective as of its date of issuance and is to be implemented with the related plant modifications.

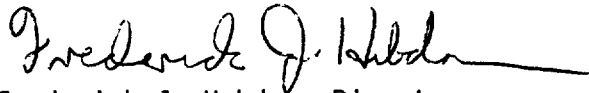
3. Paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 207, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

4. This license amendment is effective as of its date of issuance, to be implemented with the related plant modifications.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Date of Issuance: August 22, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 207

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 3-20  
3/4 3-21  
3/4 3-22  
3/4 3-23  
3/4 3-23a  
3/4 3-27a  
3/4 3-27b  
3/4 3-32  
3/4 3-33a  
3/4 3-37  
3/4 3-37a  
3/4 3-38  
B3/4 7-2b

INSERT

3/4 3-20  
3/4 3-21  
3/4 3-22  
3/4 3-23  
3/4 3-23a  
3/4 3-27a  
3/4 3-27b  
3/4 3-32  
3/4 3-33a  
3/4 3-37  
3/4 3-37a  
3/4 3-38  
B3/4 7-2b

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
e. Loss of Power Start					
1. Voltage Sensors	3/shutdown board**	2/shutdown board**	3/shutdown board**	1, 2, 3	35
2. Load Shed Timer	2/shutdown board**	1/shutdown board**	2/shutdown board**	1, 2, 3	35
f. Trip of Main Feedwater Pumps Start Motor-Driven Pumps and Turbine Driven Pump	1/pump	1/pump	1/pump	1, 2	20*
g. Auxiliary Feedwater Suction Pressure-Low	3/pump	2/pump	3/pump	1, 2, 3	21*
h. Auxiliary Feedwater Suction Transfer Time Delays					
1. Motor-Driven Pump	1/pump	1/pump	1/pump	1, 2, 3	21*
2. Turbine-Driven Pump	2/pump	1/pump	2/pump	1, 2, 3	21*

---

\*\*Unit 1 Shutdown Boards Only

TABLE 3.3-3 (Continued)  
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
<b>7. LOSS OF POWER</b>					
a. 6.9 kv Shutdown Board --Loss of Voltage					
1. Voltage Sensors	3/shutdown board	2/shutdown board	3/shutdown board	1, 2, 3, 4, 5####, 6####	34
2. Diesel Generator Start and Load Shed Timer	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4 5####, 6####	34
b. 6.9 kv Shutdown Board Degraded Voltage					
1. Voltage Sensors	3/shutdown board	2/shutdown board	3/shutdown board	1, 2, 3, 4 5####, 6####	34
2. Diesel Generator Start and Load Shed Timer	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4 5####, 6####	34
3. SI/Degraded Voltage Logic Enable Timer	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4	34
<b>8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS</b>					
a. Pressurizer Pressure - P-11/Not P-11	3	2	2	1, 2, 3	22a
b. Deleted					
c. Steam Generator Level P-14	3/loop	2/loop any loop	3/loop	1, 2	22c



TABLE 3.3-3 (Continued)

TABLE NOTATION

- #Trip function may be bypassed in this MODE below P-11 (Pressurizer Pressure Block of Safety Injection) setpoint.
- ##Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.
- ###The channel(s) associated with the protective functions derived from the out of service Reactor Coolant Loop shall be placed in the tripped mode.
- ####When Associated Diesel Generator is required to be OPERABLE By LCO 3.8.1.2, "AC Sources-Shutdown." The Provisions of Specification 3.0.4 are not applicable.
- \*The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

- ACTION 15 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in at least HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1 provided the other channel is OPERABLE.
- ACTION 16 - Deleted.
- ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
  - a. The inoperable channel is placed in the tripped condition within 6 hours.
  - b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.
- ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 19 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge supply and exhaust valves are maintained closed.
- ACTION 20 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-3 (Continued)

- ACTION 21 - With less than the Minimum Number of Channels OPERABLE, declare the associated auxiliary feedwater pump inoperable, and comply with the ACTION requirements of Specification 3.7.1.2.
- ACTION 22 - With less than the Minimum Number of Channels OPERABLE, declare the interlock inoperable and verify that all affected channels of the functions listed below are OPERABLE or apply the appropriate ACTION statement(s) for those functions. Functions to be evaluated are:
- a. Safety Injection
    - Pressurizer Pressure
    - Steam Line Pressure
    - Negative Steam Line Pressure Rate
  - b. Deleted
  - c. Turbine Trip
    - Steam Generator Level High-High
    - Feedwater Isolation
    - Steam Generator Level High-High
- ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 24 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- ACTION 25 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.
- ACTION 34 -
- a. With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or enter applicable Limiting Condition(s) For Operation and Action(s) for the associated diesel generator set made inoperable by the channel.
  - b. With the number of OPERABLE channels less than the Total Number of Channels by more than one, restore all but one channel to OPERABLE status within 1 hour or enter applicable Limiting Condition(s) for Operation and Action(s) for the associated diesel generator set made inoperable by the channels.

TABLE 3.3-3 (Continued)

- ACTION 35 -
- a. With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or enter applicable Limiting Condition(s) For Operation and Action(s) for the associated auxiliary feedwater pump made inoperable by the channel.
  - b. With the number of OPERABLE channels less than the Total Number of Channels by more than one, restore all but one channel to OPERABLE status within 1 hour or enter applicable Limiting Condition(s) For Operation and Action(s) for the associated auxiliary feedwater pump made inoperable by the channel.
- ACTION 36 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours.
  - b. For the affected protection set, the Trip Time Delay for one affected steam generator ( $T_s$ ) is adjusted to match the Trip Time Delay for multiple affected steam generators ( $T_M$ ) within 4 hours.
  - c. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.
- ACTION 37 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Trip Time Delays ( $T_s$  and  $T_M$ ) threshold power level for zero seconds time delay is adjusted to 0% RTP.
- ACTION 38 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint is adjusted to the same value as Steam Generator Water Level - Low-Low (Adverse).

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
ii. RCS Loop $\Delta T$ Equivalent to Power > 50% RTP		
Coincident with Steam Generator Water Level--Low-Low (Adverse) and Containment Pressure (EAM) or Steam Generator Water Level--Low-Low (EAM)	$\geq 15.0\%$ of narrow range instrument span $\leq 0.5$ psig $\geq 10.7\%$ of narrow range instrument span	$\geq 14.4\%$ of narrow range instrument span $\leq 0.6$ psig $\geq 10.1\%$ of narrow range instrument span
d. S.I.	See 1 above (all SI Setpoints)	
e. Station Blackout	0 volts with a 5.0 second time delay	0 volts with a $5.0 \pm 1.0$ second time delay
f. Trip of Main Feedwater Pumps	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure-Low	$\geq 3.21$ psig (motor driven pump) $\geq 13.9$ psig (turbine driven pump)	$\geq 2.44$ psig (motor driven pump) $\geq 12$ psig (turbine driven pump)
h. Auxiliary Feedwater Suction Transfer Time Delays	4 seconds (motor driven pump) 5.5 seconds (turbine driven pump)	4 seconds $\pm 0.4$ seconds (motor driven pump) 5.5 seconds $\pm 0.55$ seconds (turbine driven pump)

SEQUOYAH - UNIT 1

3/4 3-27a

Amendment No. 29, 94, 129, 141, 151, 182, 183, 188, 207

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
7. LOSS OF POWER		
a. 6.9 kv Shutdown Board Undervoltage Loss of Voltage		
1. Voltage Sensors	≥5520 volts	≥5472 volts
2. Diesel Generator Start and Load Shed Timer	1.25 seconds	1.25 ±0.09 seconds
b. 6.9 kv Shutdown Board-Degraded Voltage		
1. Voltage Sensors	6456 volts	≥6403.5 volts (dropout) ≤6626.5 volts (reset)
2. Diesel Generator Start and Load Shed Timer	≤300 seconds	≤321 seconds
3. SI/Degraded Voltage Logic Enable Timer	10 seconds	10 seconds ± 0.75 seconds
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure		
1. Not P-11, Automatic Unblock of Safety Injection on Increasing Pressure	≤ 1970 psig	≤ 1975.2 psig
2. P-11, Enable Manual Block of Safety Injection on Decreasing Pressure	≥ 1962 psig	≥ 1956.8 psig

SEQUOYAH - UNIT 1

3/4 3-27b

Amendment No. 33, 129, 141, 182,

188, 207

**This Page Intentionally Deleted**

This Page Intentionally Deleted

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE REQUIRED</u>
c. Main Steam Generator Water Level--Low-Low				
1. Steam Generator Water Level--Low-Low (Adverse)	S	R	Q	1, 2, 3
2. Steam Generator Water Level--Low-Low (EAM)	S	R	Q	1, 2, 3
3. RCS Loop ΔT	S	R	Q	1, 2, 3
4. Containment Pressure (EAM)	S	R	Q	1, 2, 3
d. S.I.	See 1 above (all SI surveillance requirements)			
e. Loss of Power Start				
1. Voltage Sensors	N.A.	R	M	1, 2, 3
2. Load Shed Timer	N.A.	R	N.A.	1, 2, 3
f. Trip of Main Feedwater Pumps	N.A.	N.A.	R	1, 2
g. Auxiliary Feedwater Suction Pressure-Low	N.A.	R	M	1, 2, 3
h. Auxiliary Feedwater Suction Transfer Time Delays	N.A.	R	N.A.	1, 2, 3
7. LOSS OF POWER				
a. 6.9 kv Shutdown Board - Loss of Voltage				
1. Voltage Sensors	N.A.	R	M	1, 2, 3, 4, 5#, 6#
2. Diesel Generator Start and Load Shed Timer	N.A.	R	N.A.	1, 2, 3, 4, 5#, 6#

SEQUOYAH - UNIT 1

3/4 3-37

Amendment No. 29, 129, 141,

182, 188, 207



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE REQUIRED</u>
b. 6.9 kv Shutdown Board - Degraded Voltage				
1. Voltage sensors	N.A.	R	M	1, 2, 3, 4, 5#, 6#
2. Diesel Generators Start and Load Shed Timer	N.A.	R	N.A.	1, 2, 3, 4, 5#, 6#
3. SI/Degraded Voltage Logic Enable Timer	N.A.	R	N.A.	1, 2, 3, 4
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS				
a. Pressurizer Pressure, P-11/Not P-11	N.A.	R(2)	N.A.	1, 2, 3
b. Deleted				
c. Steam Generator Level, P-14	N.A.	R(2)	N.A.	1, 2
9. AUTOMATIC SWITCHOVER TO CONTAINMENT SUMP				
a. RSWT Level - Low	S	R	Q	1, 2, 3, 4
COINCIDENT WITH Containment Sump Level - High	S	R	Q	1, 2, 3, 4
AND Safety Injection	(See 1 above for all Safety Injection Surveillance Requirements)			
b. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4

SEQUOYAH - UNIT 1

3/4 3-37a

Amendment No. 47, 63, 129, 141,

182, 188, 207

TABLE 4.3-2 (Continued)

TABLE NOTATION

- # When associated diesel generator is required to be OPERABLE by LCO 3.8.1.2, "AC Sources - Shutdown."
- (1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.
  - (2) The total interlock function shall be demonstrated OPERABLE during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

## PLANT SYSTEMS

### BASES

---

which are designated as Train A, receive A-train air, and provide flow to the same steam generators that are supplied by the B-train motor-driven auxiliary feedwater pump. The remaining two LCVs are designated as Train B, receive B-train air, and provide flow to the same steam generators that are supplied by the A-train motor-driven pump. This design provides the required redundancy to ensure that at least two steam generators receive the necessary flow assuming any single failure. It can be seen from the description provided above that the loss of a single train of air (A or B) will not prevent the auxiliary feedwater system from performing its intended safety function and is no more severe than the loss of a single auxiliary feedwater pump. Therefore, the loss of a single train of auxiliary air only affects the capability of a single motor-driven auxiliary feedwater pump because the turbine-driven pump is still capable of providing flow to two steam generators that are separate from the other motor-driven pump.

Two redundant steam sources are required to be operable to ensure that at least one source is available for the steam-driven auxiliary feedwater (AFW) pump operation following a feedwater or main steam line break. This requirement ensures that the plant remains within its design basis (i.e., AFW to two intact steam generators) given the event of a loss of the No. 1 steam generator because of a main steam line or feedwater line break and a single failure of the B-train motor driven AFW pump. The two redundant sources must be aligned such that No. 1 steam generator source is open and operable and the No. 4 steam generator source is closed and operable.

For instances where one train of emergency raw cooling water (ERCW) is declared inoperable in accordance with technical specifications, the AFW turbine-driven pump is considered operable since it is supplied by both trains of ERCW. Similarly, the AFW turbine-driven pump is considered operable when one train of the AFW loss of power start function is declared inoperable in accordance with technical specifications because both 6.9 kilovolt shutdown board logic trains supply this function. This position is consistent with American National Standards Institute/ANS 58.9 requirements (i.e., postulation of the failure of the opposite train is not required while relying on the TS limiting condition for operation).

#### 3/4.7.1.3 CONDENSATE STORAGE TANK

The OPERABILITY of the condensate storage tank with the minimum water volume ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 2 hours with steam discharge to the atmosphere concurrent with total loss of off-site power. The contained water volume limit includes an allowance for water not useable because of tank discharge line location or other physical characteristics.



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. 197  
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 3, 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, Facility Operating Licensee DPR-79 is amended by changing the implementation date of Amendment No. 174 to read as follows:

License Amendment 174 is effective as of its date of issuance and is to be implemented with the related plant modifications.

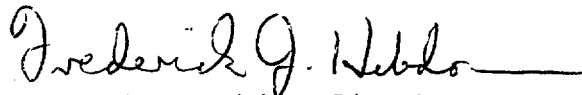
3. Paragraph 2.C.(2) of Facility Operating License No. DPR-79 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 197, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

4. This license amendment is effective as of its date of issuance, to be implemented with the related plant modifications.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Date of Issuance: August 22, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 197

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.

REMOVE

3/4 3-20  
3/4 3-21  
3/4 3-22  
3/4 3-23  
3/4 3-23a  
3/4 3-27a  
3/4 3-27b  
3/4 3-32  
3/4 3-33a  
3/4 3-37  
3/4 3-38  
3/4 3-39  
B3/4 7-2b

INSERT

3/4 3-20  
3/4 3-21  
3/4 3-22  
3/4 3-23  
3/4 3-23a  
3/4 3-27a  
3/4 3-27b  
3/4 3-32  
3/4 3-33a  
3/4 3-37  
3/4 3-38  
3/4 3-39  
B3/4 7-2b

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
e. Loss of Power Start					
1. Voltage Sensors	3/shutdown board**	2/shutdown board**	3/shutdown board**	1, 2, 3	35
2. Load Shed Timer	2/shutdown board**	1/shutdown board**	2/shutdown board**	1, 2, 3	35
f. Trip of Main Feedwater Pumps Start Motor-Driven Pumps and Turbine Driven Pump	1/pump	1/pump	1/pump	1, 2	20*
g. Auxiliary Feedwater Suction Pressure-Low	3/pump	2/pump	3/pump	1, 2, 3	21*
h. Auxiliary Feedwater Suction Transfer Time Delays					
1. Motor-Driven Pump	1/pump	1/pump	1/pump	1, 2, 3	21*
2. Turbine-Driven Pump	2/pump	1/pump	2/pump	1, 2, 3	21*

---

\*\*Unit 2 Shutdown Boards Only

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
7. LOSS OF POWER					
a. 6.9 kv Shutdown Board --Loss of Voltage					
1. Voltage Sensors	3/shutdown board	2/shutdown board	3/shutdown board	1, 2, 3, 4, 5####, 6####	34
2. Diesel Generator Start and Load Shed Timer	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4 5####, 6####	34
b. 6.9 kv Shutdown Board Degraded Voltage					
1. Voltage Sensors	3/shutdown board	2/shutdown board	3/shutdown board	1, 2, 3, 4 5####, 6####	34
2. Diesel Generator Start and Load Shed Timer	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4 5####, 6####	34
3. SI/Degraded Voltage Logic Enable Timer	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4	34

SEQUOYAH - UNIT 2

3/4 3-21

Amendment No. 18, 132, 150, 174, 180, 197



TABLE 3.3-3 (Continued)

TABLE NOTATION

- #Trip function may be bypassed in this MODE below P-11 (Pressurizer Pressure Block of Safety Injection) setpoint.
- ##Trip function automatically blocked above P-11 and may be blocked below P-11 when Safety Injection on Steam Line Pressure-Low is not blocked.
- ###The channel(s) associated with the protective functions derived from the out of service Reactor Coolant Loop shall be placed in the tripped mode.
- ####When Associated Diesel Generator is required to be OPERABLE By LCO 3.8.1.2, "AC Sources-Shutdown." The Provisions of Specification 3.0.4 are not applicable.
- \*The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

- ACTION 15 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in HOT STANDBY within 12 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1 provided the other channel is OPERABLE.
- ACTION 16 - Deleted.
- ACTION 17 - With the number of OPERABLE Channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
  - a. The inoperable channel is placed in the tripped condition within 6 hours.
  - b. The Minimum Channels OPERABLE requirements is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.
- ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition within 6 hours and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 19 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge supply and exhaust valves are maintained closed.
- ACTION 20 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

TABLE 3.3-3 (Continued)

- ACTION 21 - With less than the Minimum Number of Channels OPERABLE, declare the associated auxiliary feedwater pump inoperable, and comply with the ACTION requirements of Specification 3.7.1.2.
- ACTION 22 - With less than the Minimum Number of Channels OPERABLE, declare the interlock inoperable and verify that all affected channels of the functions listed below are OPERABLE or apply the appropriate ACTION statement(s) for those functions. Functions to be evaluated are:
- a. Safety Injection
    - Pressurizer Pressure
    - Steam Line Pressure
    - Negative Steam Line Pressure Rate
  - b. Deleted
  - c. Turbine Trip
    - Steam Generator Level High-High
    - Feedwater Isolation
    - Steam Generator Level High-High
- ACTION 23 - With the number of OPERABLE channels one less than the Total Number of Channels, be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.
- ACTION 24 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within 6 hours and in at least HOT SHUTDOWN within the following 6 hours.
- ACTION 25 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.
- ACTION 34 -
- a. With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or enter applicable Limiting Condition(s) For Operation and Action(s) for the associated diesel generator set made inoperable by the channel.
  - b. With the number of OPERABLE channels less than the Total Number of Channels by more than one, restore all but one channel to OPERABLE status within 1 hour or enter applicable Limiting Condition(s) for Operation and Action(s) for the associated diesel generator set made inoperable by the channels.

TABLE 3.3-3 (Continued)

- ACTION 35 -
- a. With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 6 hours or enter applicable Limiting Condition(s) For Operation and Action(s) for the associated auxiliary feedwater pump made inoperable by the channel.
  - b. With the number of OPERABLE channels less than the Total Number of Channels by more than one, restore all but one channel to OPERABLE status within 1 hour or enter applicable Limiting Condition(s) For Operation and Action(s) for the associated auxiliary feedwater pump made inoperable by the channel.
- ACTION 36 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:
- a. The inoperable channel is placed in the tripped condition within 6 hours.
  - b. For the affected protection set, the Trip Time Delay for one affected steam generator ( $T_s$ ) is adjusted to match the Trip Time Delay for multiple affected steam generators ( $T_M$ ) within 4 hours.
  - c. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels per Specification 4.3.2.1.1.
- ACTION 37 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Trip Time Delays ( $T_s$  and  $T_M$ ) threshold power level for zero seconds time delay is adjusted to 0% RTP.
- ACTION 38 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided that within 6 hours, for the affected protection set, the Steam Generator Water Level - Low-Low (EAM) channels trip setpoint is adjusted to the same value as Steam Generator Water Level - Low-Low (Adverse).

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
ii. RCS Loop $\Delta T$ Equivalent to Power > 50% RTP		
Coincident with Steam Generator Water Level--Low-Low (Adverse) and Containment Pressure (EAM) or Steam Generator Water Level--Low-Low (EAM)	$\geq 15.0\%$ of narrow range instrument span	$\geq 14.4\%$ of narrow range instrument span
	$\leq 0.5$ psig	$\leq 0.6$ psig
	$\geq 10.7\%$ of narrow range instrument span	$\geq 10.1\%$ of narrow range instrument span
d. S.I.	See 1 above (all SI Setpoints)	
e. Station Blackout	0 volts with a 5.0 second time delay	0 volts with a $5.0 \pm 1.0$ second time delay
f. Trip of Main Feedwater Pumps	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure--Low	$\geq 3.21$ psig (motor driven pump) $\geq 13.9$ psig (turbine driven pump)	$\geq 2.44$ psig (motor driven pump) $\geq 12$ psig (turbine driven pump)
h. Auxiliary Feedwater Suction Transfer Time Delays	4 seconds (motor driven pump)  5.5 seconds (turbine driven pump)	4 seconds $\pm 0.4$ seconds (motor driven pump)  5.5 seconds $\pm 0.55$ seconds (turbine driven pump)

SEQUOYAH - UNIT 2

3/4 3-27a

Amendment No. 18, 84, 116, 132, 174, 175, 180, 197

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
7. LOSS OF POWER		
a. 6.9 kv Shutdown Board Undervoltage Loss of Voltage		
1. Voltage Sensors	≥5520 volts	≥5472 volts
2. Diesel Generator Start and Load Shed Timer	1.25 seconds	1.25 ±0.09 seconds
b. 6.9 kv Shutdown Board-Degraded Voltage		
1. Voltage Sensors	6456 volts	≥6403.5 volts (dropout) ≤6626.5 volts (reset)
2. Diesel Generator Start and Load Shed Timer	≤300 seconds	≤321 seconds
3. SI/Degraded Voltage Logic Enable Timer	10 seconds	10 seconds ± 0.75 seconds
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure		
1. Not P-11, Automatic Unblock of Safety Injection on Increasing Pressure	≤ 1970 psig	≤ 1975.2 psig
2. P-11, Enable Manual Block of Safety Injection on Decreasing Pressure	≥ 1962 psig	≥ 1956.8 psig

SEQUOYAH - UNIT 2

3/4 3-27b

Amendment No. 18, 25, 116, 132, 174, 180, 197

This Page Intentionally Deleted

This Page Intentionally Deleted

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE REQUIRED</u>
c. Main Steam Generator Water Level--Low-Low				
1. Steam Generator Water Level--Low-Low (Adverse)	S	R	Q	1, 2, 3
2. Steam Generator Water Level--Low-Low (EAM)	S	R	Q	1, 2, 3
3. RCS Loop ΔT	S	R	Q	1, 2, 3
4. Containment Pressure (EAM)	S	R	Q	1, 2, 3
d. S.I.	See 1 above (all SI surveillance requirements)			
e. Loss of Power Start				
1. Voltage Sensors	N.A.	R	M	1, 2, 3
2. Load Shed Timer	N.A.	R	N.A.	1, 2, 3
f. Trip of Main Feedwater Pumps	N.A.	N.A.	R	1, 2
g. Auxiliary Feedwater Suction Pressure-Low	N.A.	R	M	1, 2, 3
h. Auxiliary Feedwater Suction Transfer Time Delays	N.A.	R	N.A.	1, 2, 3
7. LOSS OF POWER				
a. 6.9 kv Shutdown Board - Loss of Voltage				
1. Voltage Sensors	N.A.	R	M	1, 2, 3, 4, 5#, 6#
2. Diesel Generator Start and Load Shed Timer	N.A.	R	N.A.	1, 2, 3, 4, 5#, 6#

SEQUOYAH - UNIT 2

3/4 3-37

Amendment No. 18, 116, 132, 174, 180, 197



TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>FUNCTIONAL UNIT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>MODES FOR WHICH SURVEILLANCE REQUIRED</u>
b. 6.9 kv Shutdown Board - Degraded Voltage				
1. Voltage sensors	N.A.	R	M	1, 2, 3, 4, 5#, 6#
2. Diesel Generators Start and Load Shed Timer	N.A.	R	N.A.	1, 2, 3, 4, 5#, 6#
3. SI/Degraded Voltage Logic Enable Timer	N.A.	R	N.A.	1, 2, 3, 4
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS				
a. Pressurizer Pressure, P-11/Not P-11	N.A.	R(2)	N.A.	1, 2, 3
b. Deleted				
c. Steam Generator Level, P-14	N.A.	R(2)	N.A.	1, 2
9. AUTOMATIC SWITCHOVER TO CONTAINMENT SUMP				
a. RSWT Level - Low	S	R	Q	1, 2, 3, 4
COINCIDENT WITH				
Containment Sump Level - High	S	R	Q	1, 2, 3, 4
AND				
Safety Injection	(See 1 above for all Safety Injection Surveillance Requirements)			
b. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4

SEQUOYAH - UNIT 2

3/4 3-38

Amendment No. 39, 55, 116, 132, 174, 180, 197

TABLE 4.3-2 (Continued)

TABLE NOTATION

- # When associated diesel generator is required to be OPERABLE by LCO 3.8.1.2, "AC Sources - Shutdown."
- (1) Each train or logic channel shall be tested at least every 62 days on a STAGGERED TEST BASIS.
- (2) The total interlock function shall be demonstrated OPERABLE during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

## PLANT SYSTEMS

### BASES

---

train air, and provide flow to the same steam generators that are supplied by the A-train motor-driven pump. This design provides the required redundancy to ensure that at least two steam generators receive the necessary flow assuming any single failure. It can be seen from the description provided above that the loss of a single train of air (A or B) will not prevent the auxiliary feedwater system from performing its intended safety function and is no more severe than the loss of a single auxiliary feedwater pump. Therefore, the loss of a single train of auxiliary air only affects the capability of a single motor-driven auxiliary feedwater pump because the turbine-driven pump is still capable of providing flow to two steam generators that are separate from the other motor-driven pump.

Two redundant steam sources are required to be operable to ensure that at least one source is available for the steam-driven auxiliary feedwater (AFW) pump operation following a feedwater or main steam line break. This requirement ensures that the plant remains within its design basis (i.e., AFW to two intact steam generators) given the event of a loss of the No. 1 steam generator because of a main steam line or feedwater line break and a single failure of the B-train motor driven AFW pump. The two redundant sources must be aligned such that No. 1 steam generator source is open and operable and the No. 4 steam generator source is closed and operable.

For instances where one train of emergency raw cooling water (ERCW) is declared inoperable in accordance with technical specifications, the AFW turbine-driven pump is considered operable since it is supplied by both trains of ERCW. Similarly, the AFW turbine-driven pump is considered operable when one train of the AFW loss of power start function is declared inoperable in accordance with technical specifications because both 6.9 kilovolt shutdown board logic trains supply this function. This position is consistent with American National Standards Institute/ANS 58.9 requirements (i.e., postulation of the failure of the opposite train is not required while relying on the TS limiting condition for operation).

#### 3/4.7.1.3 CONDENSATE STORAGE TANK

The OPERABILITY of the condensate storage tank with the minimum water volume ensures that sufficient water is available to maintain the RCS at HOT STANDBY conditions for 2 hours with steam discharge to the atmosphere concurrent with total loss of off-site power. The contained water volume limit includes an allowance for water not useable because of tank discharge line location or other physical characteristics.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 207 TO FACILITY OPERATING LICENSE NO. DPR-77  
AND AMENDMENT NO. 197 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 BACKGROUND

By application dated May 3, 1995, the Tennessee Valley Authority (TVA or the licensee) requested that the implementation dates for Amendments Nos. 188 and 180 for the Sequoyah Nuclear (SQN) Plant Units 1 and 2, respectively, be delayed until the related plant modifications and technical specifications (TS) can be revised and executed.

The initial amendments addressing the same changes to the TS were issued on May 24, 1994, as Amendment Nos. 182 and 174, for SQN Units 1 and 2, respectively, in response to the application dated October 1, 1993. They required that the amendments for each unit be implemented during the Unit 2 Cycle 6 refueling outage. Subsequently, by letter dated August 19, 1994, TVA requested that implementation be delayed until the related plant modifications are executed during fiscal year 1995 when both units were operating. The exact timing was dependent on the preparation of appropriate staging and completion of detailed evaluations related to the modification.

The modifications involve changes to the setpoints and time delays for the auxiliary feedwater loss of power and the 6.9 kv shutdown board loss of voltage and degraded voltage instrumentation.

TVA considered performance of the modifications during power operation acceptable because it minimizes coordination of activities associated with a refueling outage. The delay would also allow additional time for planning the staged modification approach to meet TS action times and address any related issues. In response to this request, the Commission issued Amendment Nos. 188 and 180 for SQN Units 1 and 2, respectively, indicating implementation would occur as soon as acceptable plant conditions and modification activities/procedures were established in 1995.

2.0 INTRODUCTION

The loss-of-voltage and degraded-voltage protection are provided to the 6900-volt shutdown boards to ensure that adequate voltage is available to the safety-related loads. A loss-of-voltage or a sustained degraded-voltage

condition will start the emergency diesel generator (EDG) that will be connected to the shutdown board after tripping the normal and alternate feeders and shedding the major loads. After the EDG has been tied to the shutdown board, the loss-of-voltage relays continue to provide the load-shed functions and subsequent resequencing of the loads onto the EDG if necessary. After the EDG has connected to the shutdown board and the load sequencing interval has been achieved, the loss-of-voltage load-shed feature of the 6.9 kv shutdown board initiates a motor-driven AFW pump start. In addition, the load-shed actuation immediately activates a turbine-driven AFW pump start. The reactor coolant pumps would not be available to provide forced coolant flow in the event of loss of voltage, but the turbine-driven AFW pumps start to initiate natural circulation and heat removal in the reactor coolant system via the steam generators. The AFW pumps provide sufficient heat-removal capability to prevent the pressurizer from filling during design-basis accidents.

The purpose of Amendment Nos. 182 (for Unit 1) and 174 (for Unit 2) is to revise the setpoints and time delays for the AFW loss of power and 6.9 kv shutdown board loss-of-voltage and degraded-voltage instrumentation. Also included are changes to the description, total number of channels, channels to trip, minimum channels operable, actions, trip setpoints, allowable values, channel checks, and channel functional test requirements for loss-of-power instrumentation.

### 3.0 EVALUATION

TVA has performed additional evaluations necessary to implement the design changes related to the amendments and concluded that a significant risk to nuclear safety exists. These risks result from placing various plant components in temporary configurations, numerous wire manipulations, and the need to extend the diesel generator allowed outage significantly. Consequently, TVA concluded that implementation of the design change at this time was not in the best interests of safety. TVA is pursuing a new design change concept that will allow use of the alternate feeder breaker to the 6.9 kv shutdown boards while, at the same time, maintain the same level of voltage protection that was proposed in the original TS change request. The revised modification is being developed in conjunction with consideration of the implementation requirements to ensure that the design can be reasonably and safely achieved. It is expected that this may result in a need to submit another amendment to address changes to the technical aspects of Amendment Nos. 182 and 174 for SQN Units 1 and 2, respectively, in November 1995. The result is that implementation of Amendment Nos. 182 and 174 for SQN Units 1 and 2 will not occur in 1995. This, in turn, led to the request to delay implementation until this process is completed.

The staff has evaluated the licensee's submittal and determined that sufficient justification has been provided to allow delaying implementation of TS Amendment Nos. 182 and 174 for SQN Units 1 and 2, respectively, until the safety issues related to implementation are thoroughly addressed. In addition, the staff has concluded that maintaining the present plant configuration (i.e., not implementing the design change) is not detrimental to plant safety since the present configuration complies with applicable

regulations. Therefore, the proposed change is acceptable. Due to the uncertainty of the schedule, NRR and the Sequoyah Resident Inspector staff should be kept informed of significant changes to the design and implementation schedule.

#### 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 a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC 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 previously issued a proposed finding that the amendments involve no significant hazards consideration related to the original amendments, and there has been no public comment on such finding (59 FR 4947). The Commission repeated the proposed finding that the amendments involve no significant hazards consideration in relation to the request to change the implementation date, and there has been no public comment on such finding (59 FR 47182) and (60 FR 27343). 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 amendments 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: August 22, 1995