



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. 129
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 25, 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.

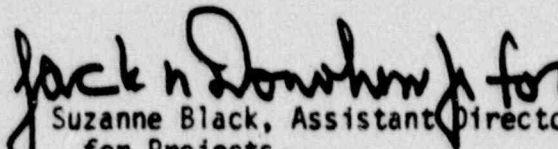
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-77 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 129, 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: November 28, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 129

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. Overleaf pages* are provided to maintain document completeness.

REMOVE

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3/4 3-20
3/4 3-21
3/4 3-23
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3/4 3-27
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INSERT

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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>
5. TURBINE TRIP & FEEDWATER ISOLATION					
a. Steam Generator Water Level--High-High	3/loop	2/loop in any operating loop	2/loop in each operating loop	1, 2, 3	16*
b. Automatic Actuation Logic	2	1	2	1, 2, 3	23
6. AUXILIARY FEEDWATER					
a. Manual Initiation	2	1	2	1, 2, 3	24
b. Automatic Actuation Logic	2	1	2	1, 2, 3	23
c. Main Stm. Gen. Water Level-Low-Low					
i. Start Motor Driven Pumps	3/stm. gen.	2/stm. gen. any stm gen.	2/stm. gen.	1, 2, 3	16*
ii. Start Turbine-Driven Pump	3/stm. gen.	2/stm. gen. any 2 stm. gen.	2/stm. gen.	1, 2, 3	16*
d. S.I. Start Motor-Driven Pumps and Turbine Driven Pump	See 1 above (all S.I. initiating functions and requirements)				

SEQUOYAH - UNIT 1

3/4 3-19

Amendment No. 41, 63,

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. Start Diesel Generators	2/shutdown board	1 loss of voltage on any shutdown board	2/shutdown board	1, 2, 3, 4	20*
2. Load Shedding	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3, 4	20*
b. 6.9 kv Shutdown Board Degraded Voltage					
1. Voltage Sensors	3/shutdown board	2/shutdown board	2/shutdown board	1, 2, 3, 4	20*
2. Diesel Generator Start and Load Shedding Timer	2/shutdown board	1/shutdown board	1/shutdown board	1, 2, 3, 4	20*
3. SI/Degraded Voltage Enable Timer	2/shutdown board	1/shutdown board	1/shutdown board	1, 2, 3, 4	20*

**NOTE: This technical specification is to be implemented during the startup following the 2nd refueling outage or following completion of the modification, whichever is earlier.

SEQUOYAH - UNIT 1

3/4 3-21

Amendment No. 41, 129

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
e. Station Blackout Start Motor-Driven Pump associated with the shutdown board and Turbine Driven Pump	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3	20
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*

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3/4 3-20

Amendment No. 41, 129

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
 - b. Safety Injection
High Steam Line Flow
Steam Line Isolation
High Steam Line Flow
Steam Dump
 - 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.
- 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.

TABLE 3.3-4

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
1. SAFETY INJECTION, TURBINE TRIP AND FEEDWATER ISOLATION		
a. Manual Initiation	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High	≤ 1.54 psig	≤ 1.7 psig
d. Pressurizer Pressure--Low	≥ 1870 psig	≥ 1860 psig
e. Differential Pressure Between Steam Lines--High	≤ 100 psi	≤ 112 psi
f. Steam Flow in Two Steam Lines--High Coincident with T_{avg} --Low-Low or Steam Line Pressure--Low	<p>< A function defined as follows: A Δp corresponding to 40% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 110% of full steam flow at full load</p> <p>$T_{avg} \geq 540^{\circ}\text{F}$ ≥ 600 psig steam line pressure</p>	<p>< A function defined as follows: A Δp corresponding to 44% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 111.5% of full steam flow at full load</p> <p>$T_{avg} \geq 538^{\circ}\text{F}$ ≥ 580 psig steam line pressure</p>

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>
6. AUXILIARY FEEDWATER		
a. Manual	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Main Steam Generator Water Level-low-low	> 18% of narrow range Instrument span each steam generator	> 17% of narrow range Instrument span each steam generator
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 ± 1.0 second time delay
f. Trip of Main Feedwater Pumps	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure-Low	> 2 psig (motor driven pump) > 13.9 psig (turbine driven pump)	> 1 psig (motor driven pump) > 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 ± 0.4 seconds (motor driven pump) 5.5 seconds ± 0.55 seconds (turbine driven pump)

SEQUOYAH - UNIT 1

3/4 3-27

Amendment No. 28, 94, 129

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
*7. LOSS OF POWER		
a. 6.9 kv Shutdown Board Undervoltage Loss of Voltage		
1. Start of Diesel Generators		
a. Nominal Voltage Setpoint	4860 volts	4860 volts +97.2 volts
b. Relay Response Time for Loss of Voltage	0 volts with a 1.5 second time delay	0 volts with a 1.5 +0.5 second time delay
2. Load Shedding		
a. Nominal Voltage Setpoint	4860 volts	4860 volts - 97.2 volts
b. Relay Response Time for Loss of Voltage	0 volts with a 5.0 second time delay	0 volts with a 5.0 +1.0 second time delay
b. 6.9 kv Shutdown Board-Degraded Voltage		
1. Voltage Sensors	6560 volts	6560 volts + 33 volts
2. Diesel Generator Start and Load Shed Timer	300 seconds	300 seconds + 30 seconds
3. SI/Degraded Voltage Logic Enable Timer	10 seconds	10 seconds + 0.5 seconds
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure Manual Block of Safety Injection P-11	≤ 1970 psig	≤ 1980 psig

*NOTE: This technical specification is to be implemented at the startup following the 2nd refueling outage or following completion of the modification, whichever is earlier.

SEQUOYAH - UNIT 1

3/4 3-27a

Amendment No. 33, 129

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 IN WHICH SURVEILLANCE REQUIRED</u>
c. Main Steam Generator Water Level-Low-Low	S	R	Q	1, 2, 3
d. S.I.	See 1 above (all SI surveillance requirements)			
e. Station Blackout	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
n. 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. Start Diesel Generators	S	R	M	1, 2, 3, 4
2. Load Shedding	S	R	N.A.	1, 2, 3, 4

*NOTE: This technical specification to be implemented at the startup following the 2nd refueling outage or following completion of the modification, whichever is earlier.

SEQUOYAH - UNIT 1

3/4 3-37a

Amendment No. 47, 63 129

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 IN WHICH SURVEILLANCE REQUIRED</u>
*b. 6.9 kv Shutdown Board - Degraded Voltage				
1. Voltage sensors	S	R	M	1, 2, 3, 4
2. Diesel Generators Start and Load Shedding Timer	N.A.	R	N.A.	1, 2, 3, 4
3. SI/Degraded Voltage Logic Timer	N.A.	R	N.A.	1, 2, 3, 4
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS				
a. Pressurizer Pressure, P-11	N.A.	R(2)	N.A.	1, 2, 3
b. T _{avg} , P-12	N.A.	R(2)	N.A.	1, 2, 3
c. Steam Generator Level, P-14	N.A.	R(2)	N.A.	1, 2
9. AUTOMATIC SWITCHOVER TO CONTAINMENT SUMP				
a. RSWT Level - Low COINCIDENT WITH Containment Sump Level - High AND Safety Injection	S	R	M	1, 2, 3, 4
	S	R	M	1, 2, 3, 4
	(See 1 above for all Safety Injection Surveillance Requirements)			
b. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4

*NOTE: This technical specification to be implemented at the startup following the 2nd refueling outage or following completion of the modification, whichever is earlier.



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. 116
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 25, 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. 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-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. 116, 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: November 28, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 116

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 3-19
3/4 3-20
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INSERT

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3/4 3-27
3/4 3-27a
3/4 3-37
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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>
COINCIDENT WITH EITHER T _{avg} --Low-Low Four Loops Operating	1 T _{avg} /loop	2 T _{avg} any loop	1 T _{avg} any 3 loops	1, 2, 3	16*
OR, COINCIDENT WITH Steam Line Pressure- Low				1, 2, 3	
Four Loops Operating	1 pressure/ loop	2 pressures any loops	1 pressure any 3 loops		16*
5. TURBINE TRIP & FEEDWATER ISOLATION					
a. Steam Generator Water Level-- High-High	3/loop	2/loop in any oper- ating loop	2/loop in each oper- ating loop	1, 2, 3	16*
b. Automatic Actuation Logic	2	1	2	1, 2, 3	23
6. AUXILIARY FEEDWATER					
a. Manual Initiation	2	1	2	1, 2, 3	24
b. Automatic Actuation Logic	2	1	2	1, 2, 3	23

SEQUOYAH - UNIT 2

3/4 3-19

Amendment No. 33, 55, 116

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>
c. Main Stm. Gen. Water Level-Low-Low					
i. Start Motor Driven Pumps	3/stm. gen.	2/stm. gen. any stm gen.	2/stm. gen.	1, 2, 3	16*
ii. Start Turbine-Driven Pump	3/stm. gen.	2/stm. gen. any 2 stm. gen.	2/stm. gen.	1, 2, 3	16*
d. S.I. Start Motor-Driven Pumps and Turbine Driven Pump	See 1 above (all S.I. initiating functions and requirements)				
e. Station Blackout Start Motor-Driven Pump associated with the shutdown board and Turbine Driven Pump	2/shutdown board	1/shutdown board	2/shutdown board	1, 2, 3	20
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*

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
 - b. Safety Injection
High Steam Line Flow
Steam Line Isolation
High Steam Line Flow
Steam Dump
 - 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.

TABLE 3.3-4

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
1. SAFETY INJECTION, TURBINE TRIP AND FEEDWATER ISOLATION		
a. Manual Initiation	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High	<1.54 psig	<1.7 psig
d. Pressurizer Pressure--Low	>1870 psig	>1860 psig
e. Differential Pressure Between Steam Lines--High	<100 psi	<112 psi
f. Steam Flow in Two Steam Lines--High Coincident with T_{avg} --Low-Low or Steam Line Pressure--Low	<p><A function defined as follows: A Δp corresponding to 40% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 110% of full steam flow at full load</p> <p>T_{avg} >540°F >600 psig steam line pressure</p>	<p><A function defined as follows: A Δp corresponding to 44% of full steam flow between 0% and 20% load and then a Δp increasing linearly to a Δp corresponding to 111.5% of full steam flow at full load</p> <p>T_{avg} >538°F >580 psig steam line pressure</p>

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>
6. AUXILIARY FEEDWATER		
a. Manual	Not Applicable	Not Applicable
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Main Steam Generator Water Level-low-low	>18% of narrow range Instrument span each steam generator	>17% of narrow range Instrument span each steam generator
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 ± 1.0 second time delay
f. Trip of Main Feedwater Pumps	N.A.	N.A.
g. Auxiliary Feedwater Suction Pressure-Low	> 2 psig (motor driven pump) ≥ 13.9 psig (turbine driven pump)	> 1 psig (motor driven pump) ≥ 12 (turbine driven pump)
h. Auxiliary Feedwater Suction Transfer Time Delays	4 seconds (motor driven pump) 5.5 seconds (turbine driven pump)	4 seconds ±0.4 seconds (motor driven pump) 5.5 seconds ±0.55 seconds (turbine driven pump)

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. Start of Diesel Generators		
a. Nominal Voltage Setpoint	4860 volts	4860 volts ±97.2 volts
b. Relay Response Time for Loss of Voltage	0 volts with a 1.5 second time delay	0 volts with a 1.5 ±0.5 second time delay
2. Load Shedding		
a. Nominal Voltage Setpoint	4860 volts	4860 volts ±97.2 volts
b. Relay Response Time for Loss of Voltage	0 volts with a 5.0 second time delay	0 volts with a 5.0 ±1.0 second time delay
b. 6.9 kv Shutdown Board-Degraded Voltage		
1. Voltage Sensors	6560 volts	6560 volts ± 33 volts
2. Diesel Generator Start and Load Shed Timer	300 seconds	300 seconds ± 30 seconds
3. SI/Degraded Voltage Logic Enable Timer	10 seconds	10 seconds ± 0.5 seconds
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure Manual Block of Safety Injection P-11	≤1970 psig	≤1980 psig

*NOTE: This technical specification is to be implemented during the startup following the 1st refueling outage.

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 IS REQUIRED</u>
c. Main Steam Generator Water Level-Low-Low	S	R	Q	1, 2, 3
d. S.I.	See 1 above (all SI surveillance requirements)			
e. Station Blackout	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. Start Diesel Generators	S	R	M	1, 2, 3, 4
2. Load Shedding	S	R	N.A.	1, 2, 3, 4

*NOTE: This technical specification is to be implemented during the startup following the 1st refueling outage.

SEQUOYAH - UNIT 2

3/4 3-37

Amendment No. 18, 116

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 IS REQUIRED</u>
*b. 6.9 kv Shutdown Board - Degraded Voltage				
1. Voltage sensors	S	R	M	1, 2, 3, 4
2. Diesel Generators Start and Load Shedding Timer	N.A.	R	N.A.	1, 2, 3, 4
3. SI/Degraded Voltage Logic Timer	N.A.	R	N.A.	1, 2, 3, 4
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS				
a. Pressurizer Pressure, P-11	N.A.	R(2)	N.A.	1, 2, 3
b. T _{avg} , P-12	N.A.	R(2)	N.A.	1, 2, 3
c. Steam Generator Level, P-14	N.A.	R(2)	N.A.	1, 2
9. AUTOMATIC SWITCHOVER TO CONTAINMENT SUMP				
a. RSWT Level - Low COINCIDENT WITH Containment Sump Level - High AND Safety Injection	S	R	M	1, 2, 3, 4
	S	R	M	1, 2, 3, 4
	(See 1 above for all Safety Injection Surveillance Requirements)			
b. Automatic Actuation Logic	N.A.	N.A.	M(1)	1, 2, 3, 4

*Note: This technical specification is to be implemented during the startup following the 1st refueling outage.