

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 Ne. 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 separity 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.

- 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

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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	INSERT
3/4 3-19	3/4 3-19*
3/4 3-20	3/4 3-20
3/4 3-21	3/4 3-21
3/4 3-23	3/4 3-23
3/4 3-24	3/4 3-24*
3/4 3-27	3/4 3-27
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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUN	CTIONA	L UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTIO
5.	TURBINE TRIP & FEEDWATER ISOLATION						
	a.	Steam Generator Water Level High-High	3/1оор	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.	AUXI	LIARY 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. ge	2/stm. gen en.	1, 2, 3	16*
	d.	S.I. Start Motor-Driven Pumps and Turbine Driven Pump	Con 1 alter				
		briven Pump	See 1 above ((all S.I. initia	iting functions	and requirement	ts)

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SEQUOYAH - UNIT 1

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Amendment No. 41, 63,

			TABL	E 3.3-3 (Continu	ed)		
		ENGINEE	RED SAFETY FEAT	URE ACTUATION SY	STEM INSTRUMEN	TATION	
FUNCTION	IAL UN	<u>II</u>	TOTAL NO. Of Channels	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
**7. LOS	S OF	POWER					
. a.		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.		kv Shutdown Board raded 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*

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

122. 4 Sec. 129.

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Amendment No. 41, 129

SEQUOYAH - UNIT 1

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTIONA	LUNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE	ACTION
e.	Station Blackout Start Motor-Driven Pump associated with the shutdown board and Turbine Driven Pump	2/shutdown board	1/shutdown bo:/d	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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SEQUOYAH - UNIT 1

- ANTION 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
 - 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.

SEQUOYAH - UNIT 1

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			IABLE 3.3-4	
		ENGINEERED SAFETY FEATURE ACT	TUATION SYSTEM INSTRUMENTATION	TRIP SETPOINTS
FUN	CTION	AL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1.		ETY INJECTION, TURBINE TRIP AND FEEDWATER ISOLATION		
	a.	Manual Initiation	Not Applicable	Not Applicable
	b.	Automatic Actuation Logic	Not Applicable	Not Applicable
	c.	Containment PressureHigh	≤ 1.54 psig	≤ 1.7 psig
	d.	Pressurizer PressureLow	≥ 1870 psig	≥ 1860 psig
	e.	Differential Pressure Between Steam LinesHigh	≤ 100 psi	≤ 112 psi
	f.	Steam Flow in Two Steam Lines High Coincident with T _{avg} Low-Low or Steam Line PressureLow	< A function defined as follows: A Δp correspond- ing to 40% of full steam flow between 0% and 20% load and then a Δp	<pre>< A function defin follows: / Ap con to 44% of full ste between 0% and 20% then a Ap increasi</pre>

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A function defined as follows: / Ap corresponding to 44% of full steam flow between 0% and 20% load and then a Ap increasing linearly to a Ap corresponding to 111.5% of full steam flow at full load

 $T_{avg} \ge 538^{\circ}F$ $\ge 580 \text{ psig steam line}$ pressure

increasing linearly to a

Ap corresponding to 110%

of full steam flow at

> 600 psig steam line

full load

pressure

 $T_{avg} \ge 540^{\circ}F$

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SEQUOYAH - UNIT 1

		THOMAS CAPTERN FEATURE		
		ENGINEERED SAFETY FEATURE	ACTUATION SYSTEM INSTRUMENTATION TR	IP SETPOINTS
UNC	CTION	IAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
•	AUX	ILIARY FEEDWATER		
	a.	Manua 1	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	0
	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	<pre>> 2 psig (motor driven pump) > 13.9 psig (turbine driven pump)</pre>	<pre>> 1 psig (motor driven pump) > 12 psig (turbine driven pump)</pre>
	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)

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SEQUOYAH - UNIT 1

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUN	CTIONA	L UN	<u>IT</u>		TRIP SETPOINT AL	LOWABLE VALUES	
*7.	LOSS	OF	POWER				
	a.	6.9 kv Shutdown Board Undervoltage					
		Los	s of \	/oltage			
		1.	Star a. b.	rt of Diesel Generators Nominal Voltage Setpoint Relay Response Time for Loss of Voltage	4860 volts O volts with a 1.5 second time delay	4860 volts +97.2 volts 0 volts with a 1.5 +0.5 sec.rd time delay	
		2.	Load a. b.	l Shedding Nominal Voltage Setpoint Relay Response Time for Loss of Voltage	4860 volts O volts with a 5.0 second time delay	4860 volts 97.2 volts 0 volts with 5.0 +1.0 second time deluy	
	b.	전화, 또 나는 또 많은 것 같아요. 같아요. 같아요. 이번 것 같아? 그 것 같아. 그 것 같아. 그는 것 같아. 그 집 ? ? ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~					
		1.	Volt	age Sensors	6560 volts	6560 volts + 33 volts	
		2.		el Generator Start and I Shed Timer	300 seconds	300 seconds + 30 seconds	
		3.		egraded Voltage Logic Ne Timer	10 seconds	10 seconds + 0.5 seconds	
8.				ETY FEATURE EM INTERLOCKS			
	a.			er Pressure ock 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.

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SEQUOYAH - UNIT

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNC	TIGNA	L UNIT	CHANNEL	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
	c.	Main Steam Generator Water Level-Low-Low	S	R	Q	1, 2, 3
	d.	S.I.	See 1 abov	e (all SI survei	llance requirem	ents)
	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 2. Load Shedding	s s	R R	M N.A.	1, 2, 3, 4 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.

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Amendment No. 29, 129

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	FUNC	TIONA	LUNIT	CHANNEL	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
		*b.	6.9 kv Shutdown Board - Degraded Voltage				
			1. Voltage sensors	5	R	H	1, 2, 3, 4
			2. Diesel Generators Start and Load Shedding Timer	N.A.	R	N.A.	1, 2, 3, 4
			 SI/Degraded Voltage Logic Timer 	N.A.	R	N.A.	1, 2, 3, 4
	8.		NEERED SAFETY FEATURE ATION SYSTEM INTERLOCKS				
			Pressurizer Pressure, P-11	N.A.	R(2)	N.A.	1, 2, 3
		b.	Tavo, 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.		MATIC SWITCHOVER TO AINMENT SUMP				
			RSWT Level - Low COINCIDENT WITH	S	R	M	1, 2, 3, 4
			Containment Sump Level - High AND	S	R	M	1, 2, 3, 4
;			Safety Injection	(See 1 a	bove for all Safe	ety Injection Se	urveillance Requirements)
		b.	Automatic Actuation Logic	N.A.	N.A. annes	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.

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Amendment No. 47, 63 129



UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20665

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-328

SEQUOYAH NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 16

- 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 defines and security or to the health and safety of the public; and

E. The Essuence of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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- 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

Acknn Suzanne Black, Assista rector 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	INSERT
3/4 3-19	3/4 3-19
3/4 3-20	3/4 3-20
3/4 3-23	3/4 3-23
3/4 3-24	3/4 3-24*
3/4 3-27	3/4 3-27
3/4 3-27a	3/4 3-27a
3/4 3-37	3/4 3-37
3/4 3-38	3/4 3-38

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTION	NAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
COI	INCIDENT WITH EITHER T _{avg} Low-Low Four Loops Operating	1 T _{avg} /loop	2 T avg any loop	1 T any 3100ps	1, 2, 3	16*
	NCIDENT WITH eam Line Pressure- w				1, 2, 3	
	Four Loops Operating	1 pressure/ loop	2 pressures any loops	1 pressure any 3 loops		16*
	RBINE TRIP & EDWATER ISOLATION					
. a.	Steam Generator Water Level High-High	3/10ор	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. AUX	ILIARY 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

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

FUNCTION	AL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
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.	2/stm. gen	1, 2, 3	16*
d.	S.I. Start Motor-Driven Pumps and Turbine Driven Pump	See 1 above	any 2 stm. gen (all S.I. initiat		and requiremen	ts)
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 2. Turbine-Driven	1/pump	1/pump	1/pump	1, 2, 3	21*
	Pump	2/pump	1/pump	2/pump	1, 2, 3	21*

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SEQUOYAH - UNIT 2

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Amendment No. 29, 116

- 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
 - 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.

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TABLE 3.3-4

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT

1.

TRIP SETPOINT

ALLOWABLE VALUES

- SAFETY INJECTION, TURBINE TRIP AND FEEDWATER ISOLATION
 - a. Manual Initiation
 - b. Antomatic Actuation Logic
 - c. Containment Pressure--High
 - d. Pressurizer Pressure--Low
 - e. Differential Pressure Between Steam Lines--High
 - f. Steam Flow in Two Steam Lines--High Coincident with Tavg or Steam Line Pressure--Low
- Not Applicable Not Applicable <1.54 psig >1870 psig <100 psi

<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

Tavg 2540°F 2600 psig steam line pressure

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Not Applicable Not Applicable <1.7 psig >1860 psig <112 psi

<A function defined as follows: A Δp corresponding to 44% of full steam flow between C% and 20% load and then a Δp increasing linearly to a Δp corresponding to 111.5% of full steam flow at full load

T_{avg} ≥538°F ≥580 psig steam line pressure

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SEQUOYAH - UNIT

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

UNCT	IONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
i. 1	AUXILIARY FEEDWATER		MEDINALL VALUES	
	a. Manual D. Automatic Actuation Logic	Not Applicable Not Applicable	Not Applicable	
c	c. Main Steam Generator	Hot Appricable	Not Applicable	
d.	Water Level-low-low	>18% of narrow range instrument span each steam generator	>17% of narrow range Instrument span each steam generator	
	S. I.	See 1 above (all SI Setpoint		
e		0 volts with 2 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	<pre>> 2 psig (motor driven pump) > 13.9 psig (turbine driven (pump)</pre>	<pre>> 1 psig (motor driven pump) > 12 (turbine driven pump)</pre>	
h.	Auxiliary Feedwater Suction Transfer Time Delays	4 seconds (motor driven pump)	4 seconds ±0.4 seconds (motor driven pump)	
		5.5 seconds (turbine driven pump)	5.5 seconds ±0.55 seconds (turbine driven pump)	

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUN(TIONA	AL UNIT		TRIP SETPOINT	ALLOWABLE VALUES
*7.	LOSS	OF POWER			
	a.	6.9 kv S Loss of	hutdown Board Undervoltage Voltage		
		1. Sta a. b.	rt of Diesel Generators Nominal Voltage Setpoint Relay Response Time for Loss of Voltage	4860 volts 0 volts with a 1.5 second time delay	4860 volts ±97.2 volts 0 volts with a 1.5 ±0.5 second time delay
		2. Loa a. b.	d Shedding Nominal Voltage Setpoint Relay Response Time for Loss of Voltage	4860 volts 0 volts with a 5.0 second time delay	4860 volts ±97.2 volts 0 volts with a 5.0 ±1.0 second time delay
		•			
	b.	6.9 kv S Voltage	hutdown Board-Degraded		
		1. Volt	age Sensors	6560 volts	6560 volts ± 33 volts
			el Generator Start and Shed Timer	300 seconds	300 seconds ± 30 seconds
			egraded Voltage Logic le Timer	10 seconds	10 seconds ± 0.5 seconds
8.			FETY FEATURE TEM INTERLOCKS		
	a.		zer Pressure Block of Safety Injection P-	11 ≤1970 psig	≤1980 psig
*N01		his techn outage.	ical specification is to be i	mplemented during the startup i	following the 1st refueling

SEQUOYAH - UNIT 2

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ENGINEERED	SAFETY	FEATURE	ACTUATION	SYSTEM	INSTRUMENTATION
States of Style 1 (1)		SUPVETIL	ANCE PEOUT	DEMENTS	Constant of the second s

FUNCT	TIONAL UNIT	CHANNEL	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED			
	c. Main Steam Generator Water Level-Low-Low	5	R	Q	1, 2, 3			
	d. 5.1.	veillance requi	rements)					
	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		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 2. Load Shedding	s s	R	M N.A.	1, 2, 3, 4 1, 2, 3, 4			

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

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Amendment No. 18, 116

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SEQUOYAH - UNIT 2

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ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUN	CTION	AL UN	<u>II</u>	CHANNEL	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
	*b. 6.9 kv Shutdown Board - Degraded Voltage						
		1.	Voltage sensors	S	R	M	1, 2, 3, 4
		2.	Diesel Cenerators 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.	Press P-11	surizer Pressure,	N.A.	R(2)	N.A.	1, 2, 3
	b	Tavg	, P-12	N.A	R(2)	N.A.	1, 2, 3
	c.		n Generator 1, P-14	N.A.	R(2)	N.A.	1, 2
9.			C SWITCHOVER TO ENT SUMP				
	a.		T Level - Low NCIDENT WITH	5	R	M	1, 2, 3, 4
			tainment Sump Level - High	s	R	M	1, 2, 3, 4
		Safe	ety Injection	(See 1 a	bove for all Safe	ety Injection Su	urveillance Requirement
	b.	Auto	omatic 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.