

Attachment 2 to AEP:NRC:0967E  
Proposed Revised Technical Specification Pages

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TABLE 4.3-1

REACTOR TRIP 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>
1. Manual Reactor Trip				
A. Shunt Trip Function	N.A.	N.A.	S/U(1)	N.A.
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1)	N.A.
2. Power Range, Neutron Flux	S	D(2), M(3) and Q(6)	M	1, 2
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(6)	M	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R(6)	M	1, 2
5. Intermediate Range, Neutron Flux	S	R(6)	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	S	R(6)	M and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature $\Delta T$	S	R <sup>+</sup>	M	1, 2
8. Overpower $\Delta T$	S	R <sup>+</sup>	M	1, 2
9. Pressurizer Pressure--low	S	R <sup>+</sup>	M	1, 2
10. Pressurizer Pressure--high	S	R <sup>+</sup>	M	1, 2
11. Pressurizer Water Level--high	S	R <sup>+</sup>	M	1, 2
12. Loss of Flow - Single loop	S	R <sup>-</sup>	M	1

+ The provisions of Specification 4.0.6 are applicable.

TABLE 4.3-1 (Continued)REACTOR TRIP 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>
13.	Loss of Flow - Two Loops	S	R	N.A.	1
14.	Steam Generator Water Level-- Low-Low	S	R <sup>+</sup>	M	1, 2
15.	Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	S	R <sup>+</sup>	M	1, 2
16.	Undervoltage - Reactor Coolant Pumps	N.A.	R	M	1
17.	Underfrequency - Reactor Coolant Pumps	N.A.	R	M	1
18.	Turbine Trip				
	A. Low Fluid Oil Pressure	N.A.	N.A.	S/U(1)	1, 2
	B. Turbine Stop Valve Closure	N.A.	N.A.	S/U(1)	1, 2
19.	Safety Injection Input from ESF	N.A.	N.A.	M(4)	1, 2
20.	Reactor Coolant Pump Breaker Position Trip	N.A.	N.A.	R	N.A.
21.	Reactor Trip Breaker				
	A. Shunt Trip Function	N.A.	N.A.	M(5) and S/U(1)	1, 2 <sup>+</sup>
	B. Undervoltage Trip Function	N.A.	N.A.	M(5) and S/U(1)	1, 2 <sup>+</sup>
22.	Automatic Trip Logic	N.A.	N.A.	M(5)	1, 2 <sup>+</sup>

+ The provisions of Specification 4.0.6 are applicable.

## INSTRUMENTATION

### 3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4 and with RESPONSE TIMES as shown in Table 3.3-5.

APPLICABILITY: As shown in Table 3.3-3.

#### ACTION:

- a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value.
- b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

#### SURVEILLANCE REQUIREMENTS

4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.\*

4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.

\* The provisions of Specification 4.0.6 are applicable.

TABLE 4.3-2

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>
1. SAFETY INJECTION, TURBINE TRIP, FEEDWATER ISOLATION, AND MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Manual Initiation	N.A.	N.A.	M(1)	1, 2, 3, 4
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3, 4
c. Containment Pressure-High	S	R <sup>+</sup>	M(3)	1, 2, 3
d. Pressurizer Pressure--Low	S	R <sup>+</sup>	M	1, 2, 3
e. Differential Pressure Between Steam Lines--High	S	R <sup>+</sup>	M	1, 2, 3
f. Steam Flow in Two Steam Lines--High Coincident with T <sub>avg</sub> --Low or Steam Line Pressure--Low	S	R <sup>+</sup>	M	1, 2, 3
2. CONTAINMENT SPRAY				
a. Manual Initiation	N.A.	N.A.	M(1)	1, 2, 3, 4
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3, 4
c. Containment Pressure--High-High	S	R <sup>+</sup>	M(3)	1, 2, 3

+ The provisions of Specification 4.0.6 are applicable.

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>
3. CONTAINMENT ISOLATION				
a. Phase "A" Isolation				
1) Manual	N.A.	N.A.	M(1)	1, 2, 3, 4
2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3, 4
b. Phase "B" Isolation				
1) Manual	N.A.	N.A.	M(1)	1, 2, 3, 4
2) Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3, 4
3) Containment Pressure-- High-High	S	R <sup>+</sup>	M(3)	1, 2, 3
c. Purge and Exhaust Isolation				
1) Manual	N.A.	N.A.	M(1)	1, 2, 3, 4
2) Containment Radio- activity-High	S	R	M	1, 2, 3, 4

+ The provisions of Specification 4.0.6 are applicable.

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>
4. STEAM LINE ISOLATION				
a. Manual	N.A.	N.A.	M(1)	1, 2, 3
b. Automatic Actuation Logic	N.A.	N.A.	M(2)	1, 2, 3
c. Containment Pressure-- High-High	S	R <sup>+</sup>	M(3)	1, 2, 3
d. Steam Flow in Two Steam Lines--High Coincident with T <sub>avg</sub> --Low-Low Pressure--Low	S	R <sup>+</sup>	M	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION				
a. Steam Generator Water Level--High-High	S	R <sup>+</sup>	M	1, 2, 3
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Steam Generator Water Level--Low-Low	S	R <sup>+</sup>	M	1, 2, 3
b. 4 kv Bus Loss of Voltage	S	R <sup>+</sup>	M	1, 2, 3
c. Safety Injection	N.A.	N.A.	M(2)	1, 2, 3
d. Loss of Main Feed Pumps	N.A.	N.A.	R	1, 2, 3

<sup>+</sup> The provisions of Specification 4.0.6 are applicable.

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>
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS				
a. Steam Generator Water Level--Low-Low	S	R +	M	1, 2, 3
b. Reactor Coolant Pump Bus Undervoltage	N.A.	R	M	1, 2, 3
8. LOSS OF POWER				
a. 4 kv Bus Loss of Voltage	S	R +	II	1, 2, 3, 4
b. 4 kv Bus Loss of Voltage	S	R +	M	1, 2, 3, 4

+ The provisions of Specification 4.0.6 are applicable.



TABLE 4.3-6REMOTE SHUTDOWN MONITORING INSTRUMENTATION  
SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
1. Reactor Trip Breaker Indication	N.A.	N.A.
2. Pressurizer Pressure	M	R +
3. Pressurizer Level	M	R +
4. Steam Generator Level	M	R
5. Steam Generator Pressure	M	R +

+ The provision of Specification 4.0.6 are applicable

TABLE 4.3-7POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>
1. Containment Pressure	M	R *
2. Reactor Coolant Outlet Temperature - $T_{HOT}$ (Wide Range)	M	R
3. Reactor Coolant Inlet Temperature - $T_{COLD}$ (Wide Range)	M	R
4. Reactor Coolant Pressure - Wide Range	M	R
5. Pressurizer Water Level	M	R *
6. Steam Line Pressure	M	R *
7. Steam Generator Water Level - Narrow Range	M	R *
8. RWST Water Level	M	R
9. Boric Acid Tank Solution Level	M	R
10. Auxiliary Feedwater Flow Rate	M	R
11. Reactor Coolant System Subcooling Margin Monitor	M	R
12. PORV Position Indicator - Limit Switches	M	R
13. PORV Block Valve Position Indicator - Limit Switches	M	R
14. Safety Valve Position Indicator - Acoustic Monitor	M	R

\* The provisions of Specification 4.0.6 are applicable.

## REACTOR COOLANT SYSTEM

### RELIEF VALVES - OPERATING

#### LIMITING CONDITION FOR OPERATION

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3.4.11 Three power operated relief valves (PORVs) and their associated block valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

#### ACTION:

- a. With one or more PORV(s) inoperable, within 1 hour either restore the PORV(s) to OPERABLE status or close the associated block valve(s) and remove power from the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With one or more block valve(s) inoperable, within 1 hour either (1) restore the block valve(s) to OPERABLE status, or (2) close the block valve(s) and remove power from the block valve(s), or (3) close the associated PORV(s) and remove power from the associated solenoid valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.\*
- c. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.4.11.1 Each of the three PORVs shall be demonstrated OPERABLE:

- a. At least once per 31 days by performance of a CHANNEL FUNCTIONAL TEST, excluding valve operation, and
- b. At least once per 18 months by performance of a CHANNEL CALIBRATION. \*\*

\*When ACTION 3.4.11.b.(3) is applied, no report pursuant to Specification 6.9.1.9 is required for the PORV.

\*\* The provisions of Specification 4.0.6 are applicable.