

TABLE 3.3-1 (Continued)

<u>DESIGNATION</u>	<u>CONDITION AND SETPOINT</u>	<u>FUNCTION</u>
P-7	With 2 of 4 Power Range Neutron Flux Channels greater than or equal to 11½ of RATED THERMAL POWER or 1 of 2 Turbine First Stage Pressure channels greater than or equal to 37 psig.	P-7 prevents or defeats the automatic block of reactor trip on: Low flow in more than one primary coolant loop, reactor coolant pump under-voltage and under-frequency, turbine trip, pressurizer low pressure, and pressurizer high level. Low flow in a particular loop can be evidenced by either a detected low flow or by the opening of the reactor coolant pump breaker.
P-8	With 2 of 4 Power Range Neutron Flux channels greater than or equal to 31½ of RATED THERMAL POWER.	P-8 prevents or defeats the automatic block of reactor trip caused by either a low coolant flow condition in a single loop or a reactor coolant pump breaker trip on a single loop.
P-10	With 3 of 4 Power Range Neutron Flux channels less than 9% of RATED THERMAL POWER.	P-10 prevents or defeats the manual block of: Power range low setpoint reactor trip, Intermediate range reactor trip, and intermediate range rod stops. Provides input to P-7.

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) (10)	1, 2, 3*, 4*, 5*
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1) (10)	1, 2, 3*, 4*, 5*
2. Power Range, Neutron Flux	S	D(2,8), M(3,8) and Q(6,8)	M and S/U(1)	1, 2 and *
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(6,8)	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	S	R(6,14)	M(14) and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature ΔT	S	R(9) ⁺	M	1, 2
8. Overpower ΔT	S	R(9) ⁺	M	1, 2
9. Pressurizer Pressure--Low	S	R ⁺	M	1, 2
10. Pressurizer Pressure--High	S	R ⁺	M	1, 2
11. Pressurizer Water Level--High	S	R ⁺	M	1, 2
12. Loss of Flow--Single Loop	S	R(8)	M	1

⁺ The provisions of Specification 4.0.6 are applicable.

TABLE 3.3-1 (Continued)

<u>DESIGNATION</u>	<u>CONDITION AND SETPOINT</u>	<u>FUNCTION</u>
P-7	With 2 of 4 Power Range Neutron Flux Channels $\geq 11\%$ of RATED THERMAL POWER or 1 of 2 Pressure Before the First Stage channels ≥ 51 psig.	P-7 prevents or defeats the automatic block of reactor trip on: Low flow in more than one primary coolant loop, reactor coolant pump under-voltage and under-frequency, turbine trip, pressurizer low pressure, and pressurizer high level. Low flow in a particular loop can be evidenced by either a detected low flow or by the opening of the reactor coolant pump breaker.
P-8	With 2 of 4 Power Range Neutron Flux channels $\geq 31\%$ of RATED THERMAL POWER.	P-8 prevents or defeats the automatic block of reactor trip caused by either a low coolant flow condition in a single loop or a reactor coolant pump breaker trip on a single loop.
P-10	With 3 of 4 Power Range Neutron Flux channels $< 9\%$ of RATED THERMAL POWER.	P-10 prevents or defeats the manual block of: Power range low setpoint reactor trip, Intermediate range reactor trip, and intermediate range rod stops. Provides input to P-7.

TABLE 4.3-1 (Continued)

NOTATION

- * - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
- (1) - If not performed in previous 7 days.
- (2) - Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference greater than 2 percent.
- (3) - Compare incore to excore axial imbalance above 15% of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.
- (4) - Manual ESF functional input check every 18 months.
- (5) - Each train tested every other month.
- (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.
- (8) - The provisions of Specification 4.0.4 are not applicable.
- (9) - The provisions of Specification 4.0.4 are not applicable for $f_1(\Delta I)$ and $f_2(\Delta I)$ penalties. (See also note 1 of Table 2.2-1)
- (10) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
- (11) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
- (12) - Local manual shunt trip prior to placing breaker in service.
- (13) - Automatic Undervoltage Trip.
- (14) - The provisions of Specification 4.0.4 are not applicable when leaving MODE 1. In such an event, the calibration and/or functional test shall be performed within 24 hours after leaving MODE 1.

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)(10)	1, 2, 3*, 4*, 5*
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
2. Power Range, Neutron Flux	S	D(2,8),M(3,8) and Q(6,8)	M and S/U(1)	1, 2 and *
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(6,8)	S/U(1)	1, 2 and *
6. Source Range, Neutron Flux	S	R(6,14)	M(14) and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature ΔT	S	R(9)	M	1, 2
8. Overpower ΔT	S	R(9)	M	1, 2
9. Pressurizer Pressure--Low	S	R	M	1, 2
10. Pressurizer Pressure--High	S	R	M	1, 2
11. Pressurizer Water Level--High	S	R	M	1, 2
12. Loss of Flow - Single Loop	S	R(8)	M	1

TABLE 4.3-1 (Continued)

NOTATION

- * - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
- (1) - If not performed in previous 7 days.
- (2) - Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference > 2 percent.
- (3) - Compare incore to excore axial offset above 15% of RATED THERMAL POWER. Recalibrate if absolute difference \geq 3 percent.
- (4) - Manual ESF functional input check every 18 months.
- (5) - Each train tested every other month.
- (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.
- (8) - The provisions of Specification 4.0.4 are not applicable.
- (9) - The provisions of Specification 4.0.4 are not applicable for $f_1(\Delta I)$ and $f_2(\Delta I)$ penalties. (See also note 1 of Table 2.2-1)
- (10) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
- (11) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
- (12) - Local manual shunt trip prior to placing breaker in service.
- (13) - Automatic Undervoltage Trip.
- (14) - The provisions of Specification 4.0.4 are not applicable when leaving MODE 1. In such an event, the calibration and/or functional test shall be performed within 24 hours after leaving MODE 1.