

TABLE 2.2-1
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REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>	
1. Manual Reactor Trip	N.A.	N.A.	N.A.	N.A.	N.A.	
2. Power Range, Neutron Flux						
a. High Setpoint	7.5	4.56	1.25	≤109% of RTP*	≤111.7% of RTP*	2
b. Low Setpoint	8.3	4.56	1.25	≤25% of RTP*	≤27.7% of RTP*	2
3. Power Range, Neutron Flux, High Positive Rate	1.6	0.5	0	≤5% of RTP* with a time constant ≥2 seconds	≤6.3% of RTP* with a time constant ≥2 seconds	
4. Power Range, Neutron Flux, High Negative Rate	1.6	0.5	0	≤5% of RTP* with a time constant ≥2 seconds	≤6.3% of RTP* with a time constant ≥2 seconds	
5. Intermediate Range, Neutron Flux	17.0	8.41	0	≤25% of RTP*	≤31.5% of RTP*	
6. Source Range, Neutron Flux	17.0	10.01	0	≤10 ⁵ cps	≤1.4 x 10 ⁵ cps	
7. Overtemperature N-16	5.8	3.65	1.2+0.8(1)	See Note 1	See Note 2	
8. Overpower N-16	4.0	1.93	0	≤112% of RTP*	≤115.1% of RTP*	

*RTP = RATED THERMAL POWER

(1) 1.2% span for delta-T (RTDs) and 0.8% for pressurizer pressure.

9011150094 901107
PDR ADOCK 05000445
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REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>Z</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
9. Pressurizer Pressure-Low	4.4	0.71	2.0	≥1880 psig	≥1863.6 psig
10. Pressurizer Pressure-High	7.5	5.01	1.0	≤2385 psig	≤2400.8 psig
11. Pressurizer Water Level-High	8.0	2.18	2.0	≤92% of instrument span	<93.9% of instrument span
12. Reactor Coolant Flow-Low	2.5	1.18	0.6	≥90% of loop design flow**	≥88.6% of loop design flow**
13. Steam Generator Water Level - Low-Low	25.0	22.08	2.0	≥25.0% of narrow range instrument span	≥23.1% of narrow range instrument span
14. Undervoltage - Reactor Coolant Pumps	7.7	0	0	≥4830 volts-each bus	≥4753 volts-each bus
15. Underfrequency - Reactor Coolant Pumps	4.4	0	0	≥57.2 Hz	≥57.1 Hz
16. Turbine Trip					
a. Low Trip System Pressure	N.A.	N.A.	N.A.	≥59 psig	≥46.6 psig
b. Turbine Stop Valve Closure	N.A.	N.A.	N.A.	≥1% open	≥1% open
17. Safety Injection Input from ESF	N.A.	N.A.	N.A.	N.A.	N.A.

**Loop design flow = 95,700 gpm.

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CABLE 3.3-3 (Continued)

DESIGNED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>±</u>	<u>SENSOR ERROR (SE)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
3. Containment Actuation (Continued)					
2) Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
3) Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
4. Steam Line Isolation					
a. Manual Initiation	N.A.	N.A.	N.A.	N.A.	N.A.
b. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
c. Containment Pressure-High-2	2.7	0.71	1.7	≤ 6.2 psig	≤ 6.8 psig
d. Steam Line Pressure - Low	17.3	15.01	2.0	≥ 605 psig*	≥ 593.5 psig*
e. Steam Line Pressure - Negative Rate - High	0.0	0.5	0	≤ 100 psi**	≤ 178.7 psi**
5. Turbine Trip and Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. Steam Generator Water Level - High-High	7.6	4.76	2.0	≤ 82.4% of narrow range instrument span	≤ 84.3% of narrow range instrument span

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TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TOTAL ALLOWANCE (TA)</u>	<u>A</u>	<u>SENSOR ERROR (S)</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
5. Turbine Trip and Feedwater Isolation (Continued)					
a. Safety Injection	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
6. Auxiliary Feedwater					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. Steam Generator Water Level- Low-Low	25.0	22.00	2.0	≥ 25.04 of narrow range instrument span	≥ 23.14 of narrow range instrument span 2
c. Safety Injection-Start Motor Driven Pumps	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				
d. Loss-of-Offsite Power	N.A.	N.A.	N.A.	N.A.	N.A.
e. Trip of All Main Feedwater Pumps	N.A.	N.A.	N.A.	N.A.	N.A.
7. Automatic Initiation of ECCS Switchover to Containment Sump					
a. Automatic Actuation Logic and Actuation Relays	N.A.	N.A.	N.A.	N.A.	N.A.
b. RNST Level-Low-Low Coincident With Safety Injection	2.5	0.71	1.25	≥ 40.04 of span	≥ 30.94 of span
	See Item 1. above for all Safety Injection Trip Setpoints and Allowable Values.				

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