

Table 3.3.1-1 (page 3 of 7)
Reactor Trip System Instrumentation

| FUNCTION | APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS | REQUIRED CHANNELS | CONDITIONS | SURVEILLANCE REQUIREMENTS | ALLOWABLE VALUE | NOMINAL ^(a) TRIP SETPOINT |
|---|--|-------------------|------------|--|---|---|
| 10. Reactor Coolant Flow—Low | 1 ^(g) | 3 per loop | M | SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16 | ≥ 89.8% of measured loop flow | 90% of measured loop flow |
| 11. Reactor Coolant Pump (RCP) Breaker Position | 1 ^(g) | 1 per RCP | M | SR 3.3.1.14 | NA | NA |
| 12. Undervoltage RCPs | 1 ^(g) | 2 per bus | M | SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.16 | ≥ 7877 V each bus | 8050 V each bus |
| 13. Underfrequency RCPs | 1 ^(g) | 3 per bus | M | SR 3.3.1.9 SR 3.3.1.10 SR 3.3.1.16 | ≥ 53.9 Hz each bus | 54.0 Hz each bus |
| 14. a. Steam Generator (SG) Water Level—Low Low | 1,2 | 3 per SG | E | SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.10 SR 3.3.1.16 | ≥ 14.8% | 15.0% |
| b. SG Water Level - Low Low Trip Time Delay (TTD) | 1,2 | 4 | X | SR 3.3.1.7 SR 3.3.1.10 | TTD ≤ 1.01 TD (Note 3) for RCS loop ΔT variable input ≤ 50.7% RTP and TTD=0 for RCS loop ΔT variable input > 50.7 % RTP | TTD ≤ TD (Note 3) for RCS loop ΔT variable input 50% RTP TTD=0 for RCS loop ΔT variable input 50% RTP |
| 15. Not used | | | | | | |

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (g) Above the P-7 (Low Power Reactor Trips Block) interlock.

Table 3.3.2-1 (page 5 of 7)
Engineered Safety feature Actuation System Instrumentation

| FUNCTION | APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS | REQUIRED CHANNELS | CONDITIONS | SURVEILLANCE REQUIREMENTS | ALLOWABLE VALUE | NOMINAL ^(a) TRIP SETPOINT |
|---|---|-------------------|------------|---|-----------------|--------------------------------------|
| 5. Feedwater Isolation (continued) | | | | | | |
| b. SG Water Level-High High (P-14) | 1,2 ^(j) | 3 per SG | J | SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10 | ≤ 75.2% | 75% |
| c. Safety Injection | Refer to Function 1 (Safety Injection) for all initiation functions and requirements. | | | | | |
| 6. Auxiliary Feedwater | | | | | | |
| a. Manual | 1,2,3 | 1 sw/pp | N | SR 3.3.2.13 | NA | NA |
| b. Automatic Actuation Logic and Actuation Relays (Solid State Protection System) | 1,2,3 | 2 trains | G | SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6 | NA | NA |
| c. Not used | | | | | | |
| d.1 SG Water Level-Low Low | 1,2,3 | 3 per SG | D | SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10 | ≥ 14.8% | 15.0% |

(continued)

- (a) A channel is OPERABLE with an actual Trip Setpoint value outside its calibration tolerance band provided the Trip Setpoint value is conservative with respect to its associated Allowable Value and the channel is re-adjusted to within the established calibration tolerance band of the Nominal Trip Setpoint. A Trip Setpoint may be set more conservative than the Nominal Trip Setpoint as necessary in response to plant conditions.
- (j) Except when all MFIVs, MFRVs, and associated bypass valves are closed and de-activated or isolated by a closed manual valve.