

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.4	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.2.5	Perform MASTER RELAY TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.2.6	Perform COT.	92 days
SR 3.3.2.7	<p>-----NOTE----- Verification of relay setpoints not required. -----</p> <p>Perform TADOT.</p>	92 days
SR 3.3.2.8	Perform SLAVE RELAY TEST.	18 months
SR 3.3.2.9	<p>-----NOTE----- Verification of setpoint not required. -----</p> <p>Perform TADOT.</p>	18 months

(continued)

Table 3.3.2-1 (page 1 of 6)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Safety Injection					
a. Manual Initiation	1,2,3,4	2	B	SR 3.3.2.9	NA
b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
c. Containment Pressure - High 1	1,2,3	3	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≤ 4.6 psig
d. Pressurizer Pressure - Low	1,2,3 ^(a)	4	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≥ 1817 psig
e. Steam Line Pressure - Low	1,2,3 ^(a)	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≥ 614 psig ^(b)
2. Containment Spray					
a. Manual Initiation	1,2,3,4	2	B	SR 3.3.2.9	NA
b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
c. Containment Pressure High - 3	1,2,3	4	E	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≤ 21.2 psig

(continued)

(a) Above the P-11 (Pressurizer Pressure) interlock.

(b) Time constants used in the lead/lag controller are $t_1 \geq 50$ seconds and $t_2 \leq 5$ seconds.

Table 3.3.2-1 (page 2 of 6)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. Containment Isolation					
a. Phase A Isolation					
(1) Manual Initiation	1.2.3.4	2	B	SR 3.3.2.9	NA
(2) Automatic Actuation Logic and Actuation Relays	1.2.3.4	2 trains	C	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
(3) Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
b. Phase B Isolation					
(1) Manual Initiation	1.2.3.4	2	B	SR 3.3.2.9	NA
(2) Automatic Actuation Logic and Actuation Relays	1.2.3.4	2 trains	C	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
(3) Containment Pressure High - 3	1.2.3	4	E	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≤ 21.2 psig

(continued)

Table 3.3.2-1 (page 3 of 6)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. Steam Line Isolation					
a. Manual Initiation	1.2 ^(c) , 3 ^(c)	2	F	SR 3.3.2.9	NA
b. Automatic Actuation Logic and Actuation Relays	1.2 ^(g) , 3 ^(g)	2 trains	G	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
c. Containment Pressure - High 2	1.2 ^(g) , 3 ^(g)	3	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≤ 9.4 psig
d. Steam Line Pressure					
(1) Low	1.2 ^(g) , 3 ^{(a)(f)(g)}	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≥ 614 psig ^(b)
(2) Negative Rate - High	3 ^{(d)(g)}	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≤ 165.3 psi ^(e)

(continued)

- (a) Above the P-11 (Pressurizer Pressure) interlock.
- (b) Time constants used in the lead/lag controller are $t_1 \geq 50$ seconds and $t_2 \leq 5$ seconds.
- (c) Except when all Main Steam Isolation Valves (MSIVs) are closed.
- (d) Below the P-11 (Pressurizer Pressure) interlock with Function 4.d.1 blocked.
- (e) Time constant utilized in the rate/lag controller is ≥ 50 seconds.
- (f) Below the P-11 (Pressurizer Pressure) interlock with Function 4.d.2 not enabled.
- (g) Except when all Main Steam Isolation Valves (MSIVs) and MSIV bypass valves are closed.

Table 3.3.2-1 (page 4 of 6)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. Turbine Trip and Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relays	1.2 ^(h) , 3 ^(h)	2 trains	G	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
b. Steam Generator (SG) Water Level - High High (P-14)					
1) Unit 1	1.2 ^(h) , 3 ^(h)	4 per SG	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.6 SR 3.3.2.8 SR 3.3.2.10 SR 3.3.2.12	≤ 89.9% of narrow range instrument span
2) Unit 2	1.2 ^(h) , 3 ^(h)	4 per SG	D	SR 3.3.2.1 SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.6 SR 3.3.2.8 SR 3.3.2.10 SR 3.3.2.12	≤ 81.5% of narrow range instrument span
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				

(continued)

(h) Except when all Feedwater Isolation Valves are closed or isolated by a closed manual valve.

Table 3.3.2-1 (page 5 of 6)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6. Auxiliary Feedwater					
a. Automatic Actuation Logic and Actuation Relays	1.2.3	2 trains	G	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
b. SG Water Level – Low Low					
1) Unit 1	1.2.3	4 per SG	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≥ 16.1% of narrow range instrument span
2) Unit 2	1.2.3	4 per SG	D	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≥ 34.8% of narrow range instrument span
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
d. Loss of Offsite Power (Undervoltage on Bus 141(241))	1.2.3	2	H	SR 3.3.2.3 SR 3.3.2.10 SR 3.3.2.11	≥ 2730 V
e. Undervoltage Reactor Coolant Pump (per train)	1.2	4	I	SR 3.3.2.7 SR 3.3.2.10 SR 3.3.2.12	≥ 4920 V
f. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure – Low	1.2.3	1 per train	J	SR 3.3.2.1 SR 3.3.2.2 SR 3.3.2.10	≥ 17.4 psia
7. Switchover to Containment Sump					
a. Automatic Actuation Logic and Actuation Relays	1.2.3.4	2 trains	C	SR 3.3.2.4 SR 3.3.2.5 SR 3.3.2.8	NA
b. Refueling Water Storage Tank (RWST) Level – Low Low	1.2.3.4	4	K	SR 3.3.2.1 SR 3.3.2.6 SR 3.3.2.10 SR 3.3.2.12	≥ 44.7% of instrument span
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				

(continued)

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.6-1 to determine which SRs apply for each Containment Ventilation Isolation Function.

SURVEILLANCE	FREQUENCY
SR 3.3.6.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2 Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.6.3 Perform MASTER RELAY TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.6.4 Perform COT.	92 days
SR 3.3.6.5 Perform SLAVE RELAY TEST.	18 months
SR 3.3.6.6 Perform CHANNEL CALIBRATION.	18 months