SURVEILLANCE REQUIREMENTS

----------NOTE----------
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 2 hours.

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	24 hours
SR 3.3.2.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.2.2.3	Calibrate the trip unit.	92 days
SR 3.3.2.2.4	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 50.34 inches.	24 months
SR 3.3.2.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker and valve actuation.	24 months

SURVEILLANCE REQUIREMENTS

---------- NOTES ----------

1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c, 3.f, and 3.g; and (b) for up to 6 hours for Functions other than 3.c, 3.f, and 3.g provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.5.1.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.1.3	Calibrate the trip unit.	92 days
SR 3.3.5.1.4	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.1.5	Perform CHANNEL CALIBRATION.	184 days

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.6	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.1.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.5.1-1 (page 1 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Core Spray System					
a. Reactor Vessel Water Level–Low Low	1,2,3,	4[b]	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ -55.2 inches
	4[a], 5[a]				
b. Drywell Pressure–High	1,2,3	4[b]	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≤ 2.43 psig
c. Reactor Steam Dome Pressure–Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 306 psig and ≤ 342 psig
	4[a], 5[a]	2	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 306 psig and ≤ 342 psig
d. Core Spray Pump Discharge Flow–Low (Bypass)	1,2,3,	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ 577 gpm and ≤ 830 gpm
	4[a], 5[a]				
e. Core Spray Pump Start-Time Delay Relay	1, 2, 3	1 per pump	C	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 11.4 seconds
	4[a], 5[a]				
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level–Low Low	1,2,3,	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ -55.2 inches
	4[a], 5[a]				
b. Drywell Pressure–High	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≤ 2.43 psig
c. Reactor Steam Dome Pressure–Low (Permissive)	1,2,3	2	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 306 psig and ≤ 342 psig
	4[a], 5[a]	2	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 306 psig and ≤ 342 psig

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2, "ECCS–Shutdown."

(b) Also required to initiate the associated diesel generator (DG).

Table 3.3.5.1-1 (page 2 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
d. Reactor Steam Dome Pressure–Low (Break Detection)	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.5 SR 3.3.5.1.7	≥ 868 psig and ≤ 891 psig
e. Low Pressure Coolant Injection Pump Start-Time Delay Relay Pumps B and D	1,2,3, 4[a],5[a]	1 per pump	C	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 6.7 seconds
f. Low Pressure Coolant Injection Pump Discharge Flow–Low (Bypass)	1,2,3, 4[a], 5[a]	1 per loop	E	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ 2526 gpm
g. Recirculation Pump Differential Pressure-High (Break Detection)	1, 2, 3	4 per pump	C	SR 3.3.5.1.2 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ 2.3 psid
h. Recirculation Riser Differential Pressure–High (Break Detection)	1,2,3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 2.15 psid
i. Recirculation Pump Differential Pressure Time Delay–Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 0.82 seconds
j. Reactor Steam Dome Pressure Time Delay–Relay (Break Detection)	1, 2, 3	2	B	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 2.26 seconds
k. Recirculation Riser Differential Pressure Time Delay–Relay (Break Detection)	1, 2, 3	2	C	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 0.82 seconds

(continued)

(a) When associated ECCS subsystem(s) are required to be OPERABLE per LCO 3.5.2.

Table 3.3.5.1-1 (page 3 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level -Low Low	1, 2(c), 3(c)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ -55.2 inches
b. Drywell Pressure – High	1, 2(c), 3(c)	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≤ 2.43 psig
c. Reactor Vessel Water Level – High	1, 2(c), 3(c)	2	C	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 50.34 inches
c. Contaminated Condensate Storage Tank (CCST) Level –Low	1, 2(c), 3(c)	2	D	SR 3.3.5.1.2 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ 598 ft 1 inch
e. Suppression Pool Water Level – High	1, 2(c), 3(c)	2	D	SR 3.3.5.1.2 SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 15 ft 11.25 inches
f. High Pressure Coolant Injection Pump Discharge Flow – Low (Bypass)	1, 2(c), 3(c)	1	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 634 gpm
g. Manual Initiation	1, 2(c), 3(c)	1	C	SR 3.3.5.1.7	NA
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level–Low Low	1, 2(c), 3(c)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ -55.2 inches
b. Drywell Pressure–High	1, 2(c), 3(c)	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≤ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, 2(c), 3(c)	1	G	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 119 seconds

(continued)

(c) With reactor steam dome pressure > 150 psig.

Table 3.3.5.1-1 (page 4 of 4)
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
4. ADS Trip System A (continued)					
d. Core Spray Pump Discharge Pressure-High	1, 2[c], 3[c]	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 101.9 psig and ≤ 148.1 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure-High	1, 2[c], 3[c]	4	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 101.6 psig and ≤ 148.4 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 530 seconds
5. ADS Trip System B					
a. Reactor Vessel Water Level-Low Low	1, 2[c], 3[c]	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.6 SR 3.3.5.1.7	≥ -55.2 inches
b. Drywell Pressure-High	1, 2[c], 3[c]	2	F	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≤ 2.43 psig
c. Automatic Depressurization System Initiation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 119 seconds
d. Core Spray Pump Discharge Pressure-High	1, 2[c], 3[c]	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 101.9 psig and ≤ 148.1 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure-High	1, 2[c], 3[c]	4	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.7	≥ 101.6 psig and ≤ 148.4 psig
f. Automatic Depressurization System Low Low Water Level Actuation Timer	1, 2[c], 3[c]	1	G	SR 3.3.5.1.6 SR 3.3.5.1.7	≤ 530 seconds

(c) With reactor steam dome pressure > 150 psig.

SURVEILLANCE REQUIREMENTS

----------NOTES ----------

1. Refer to Table 3.3.5.2-1 to determine which SRs apply for each RCIC Function.

2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 2 and 5; and (b) for up to 6 hours for Functions 1, 3, and 4 provided the associated Function maintains RCIC initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.5.2.2	CALIBRATE the trip unit.	92 days
SR 3.3.5.2.3	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.2.4	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.5.2-1 (page 1 of 1)
Reactor Core Isolation Cooling System Instrumentation

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level–Low Low	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≥ -55.2 inches
2. Reactor Vessel Water Level–High	2	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≤ 50.34 inches
3. Contaminated Condensate Storage Tank (CCST) Level-Low	2	D	SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≥ 598 ft 1 inch
4. Suppression Pool Water Level–High	2	D	SR 3.3.5.2.3 SR 3.3.5.2.4 SR 3.3.5.2.5	≤ 15 ft 11.25 inches
5. Manual Initiation	1	C	SR 3.3.5.2.5	NA